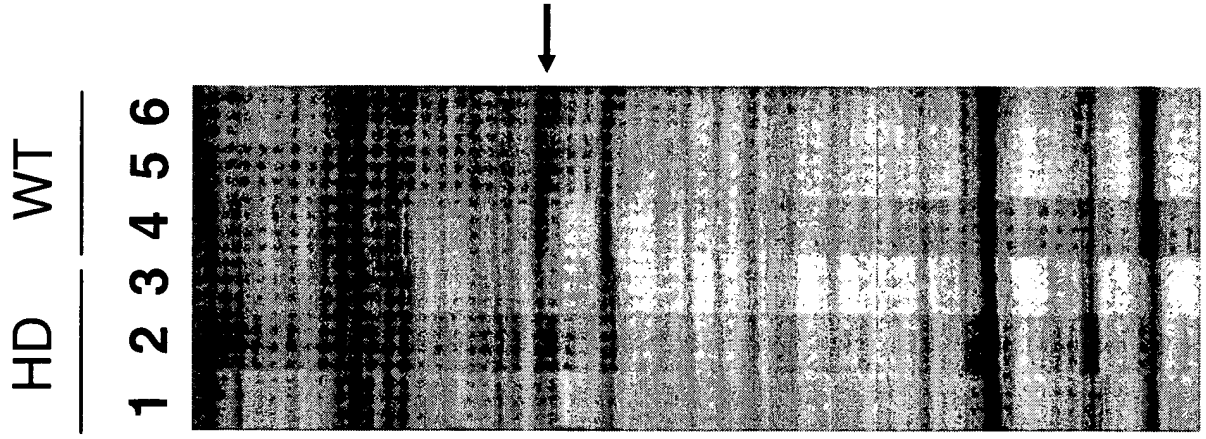


Figure 1

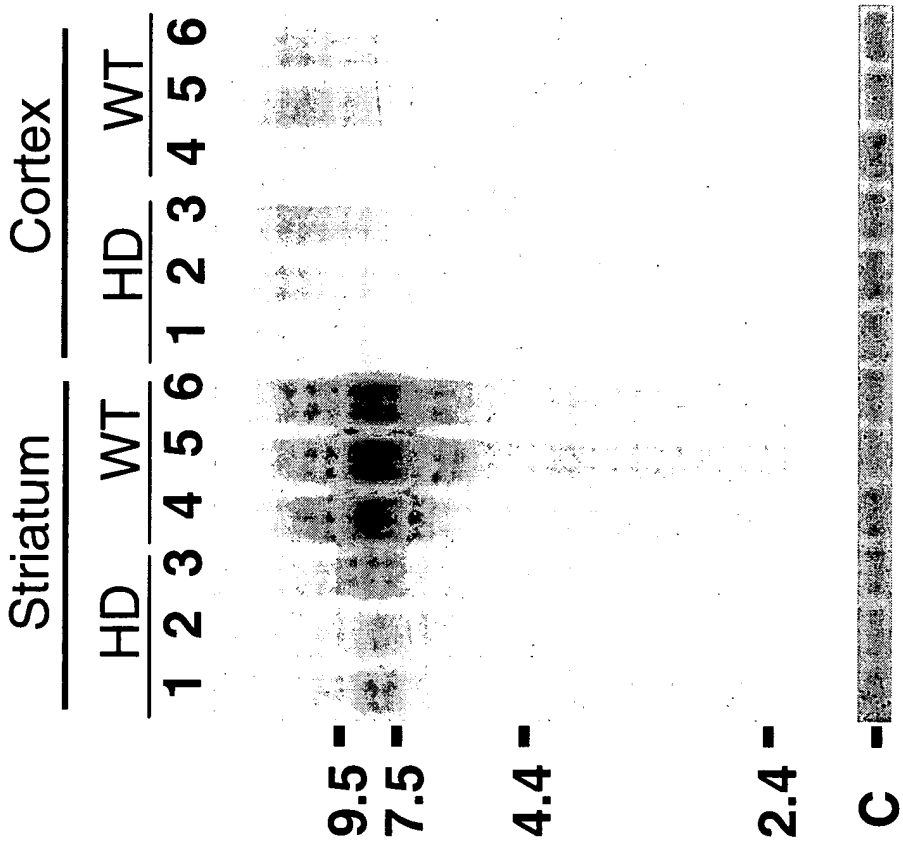


Figure 2

Figure 3

```
   1  TGTATGGGAA TAGTGTTTCC ATATGATCTG TTGTCTGGAG TATATGCTAC ATGTTCATTT
      ACATACCCTT ATCACAAAGG TATACTAGAC AACAGACCTC ATATACGATG TACAAGTAAA
                                                  HD1
  61  ACTGTACAAA AACCCAGTGC AGCTGATGAT GCAAAGCAGT CTCTCTCTGT GTACAGTGCC
      TGACATGTTT TTGGGTCACG TCGACTACTA CGTTTCGTCA GAGAGAGACA CATGTCACGG
 121  CCACCTATTT AAAAATCACG TACAASCCCA GAACACTGTG AAACACTTAA CATAAGAAAC
      GGTGGATAAA TTTTTAGTGC ATGTTSGGGT CTTGTGACAC TTTGTGAATT GTATTCTTTG
                                                        HD2
 181  AAACGCAGCG TCTGGATTCT TTCCAAGGAG AGCAGCTTTC TCCACAGGAA CACAGTAACA
      TTTGCGTCGC AGACCTAAGA AAGGTTCCTC TCGTCGAAAG AGGTGTCCTT GTGTCATTGT
      HD2
 241  AAAGAGGTCC GCCGCCATCC ACACCCAGCC AAGACACCTC AGAGGCCATA GGGACAACCT
      TTTCTCCAGG CGGCGGTAGG TGTGGGTCGG TTCTGTGGAG TCTCCGGTAT CCCTGTTGGA
 301  CCTTGCTGGC CAACACCTGC TGGAGCAGGG CACAGGTCCC AGCAACTGAT CCTCAGTGGA
      GGAACGACCG GTTGTGGACG ACCTCGTCCC GTGTCCAGGG TCGTTGACTA GGAGTCACCT
 361  TGGGTCCGCA GTCAAAGCCT TAATGGGCTC TCTTTTGAAG GGGAAAGAAA KWTTTCAAGC
      ACCCAGGCGT CAGTTTCGGA ATTACCCGAG AGAAAACTTC CCCTTTCTTT MWAAAGTTCG
 421  TTATGATATC CAACATTATT ATAGTTGATG AGTTAGTAAA TTCCGAAAAA AAAA
      AATACTATAG GTTGTAATAA TATCAACTAC TCAATCATTT AAGGCTTTTT TTTT
```

Figure 4

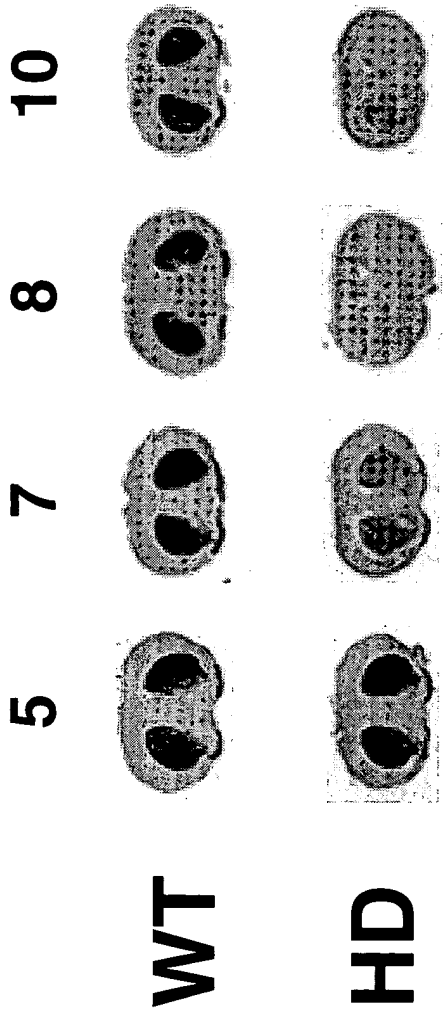
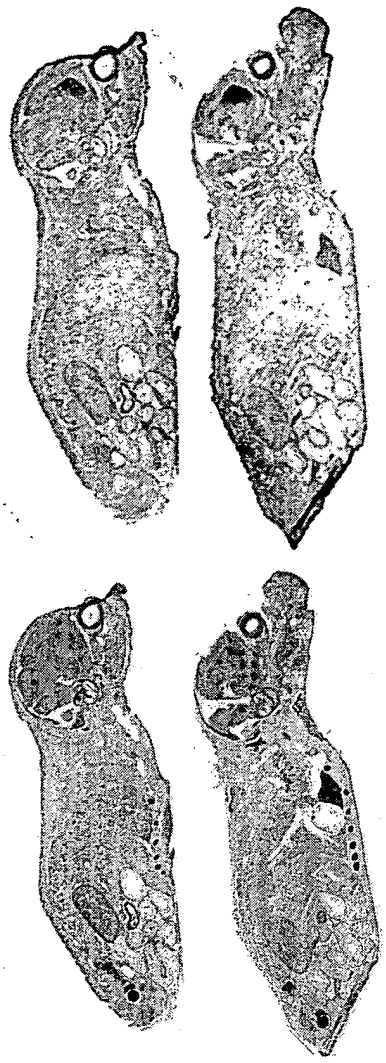


Figure 5



WT HD

Figure 6

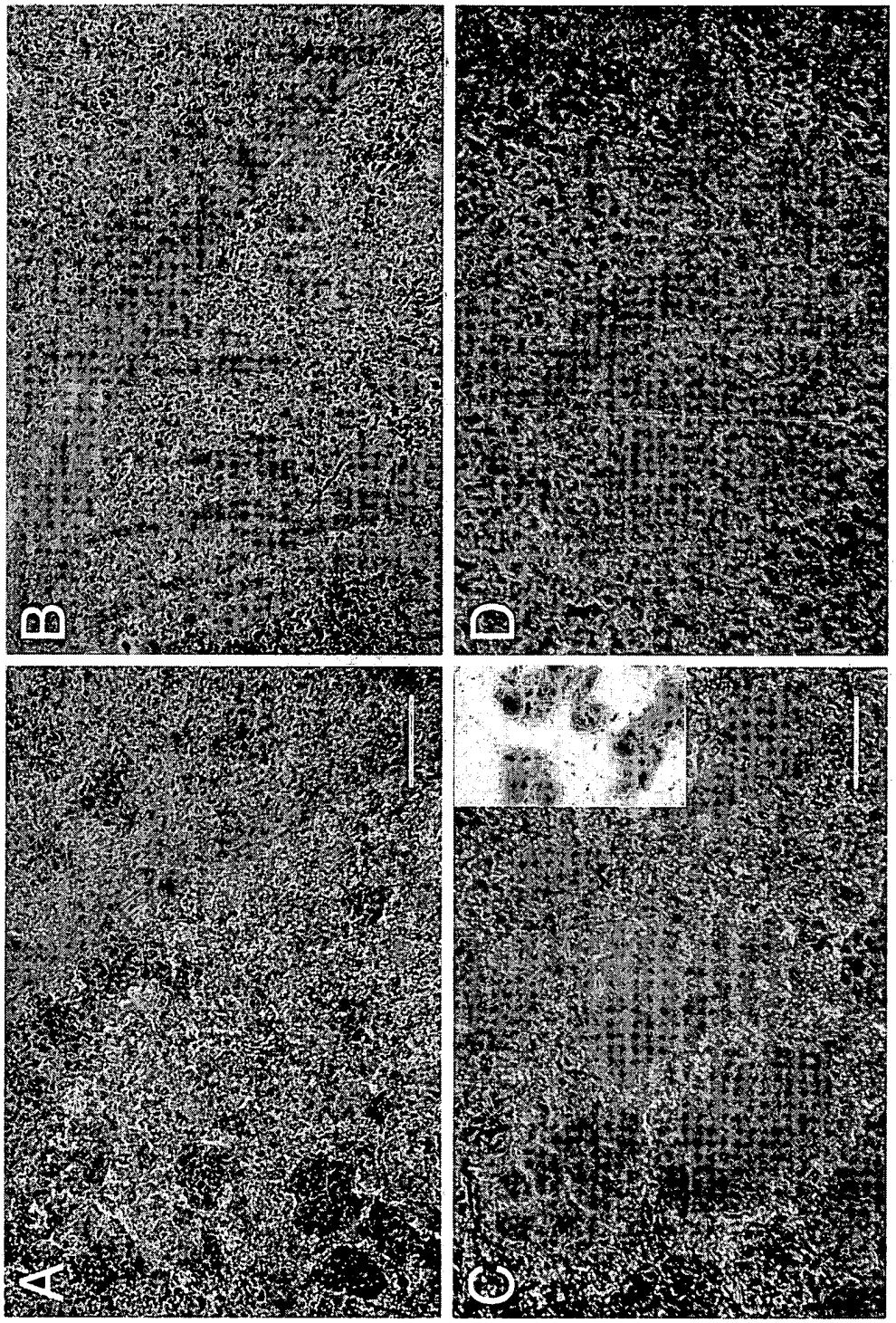


Figure 7

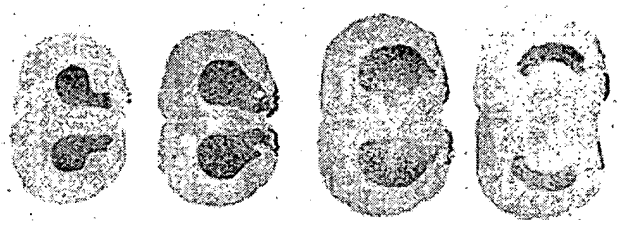


Figure 8

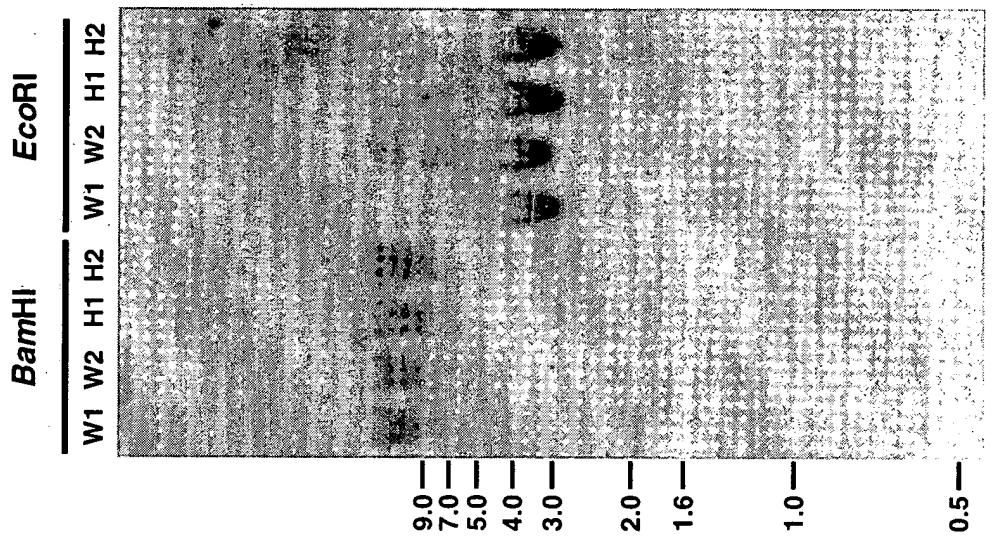


Figure 9

Figure 10

```
   1  CACTGAAGCT GGTCCACGTC TATAAACAGG TGACACTGGC TGCAGCAAAA AGCCATTCGA
      GTGACTTCGA CCAGGTGCAG ATATTTGTCC ACTGTGACCG ACGTCGTTTT TCGGTAAGCT

  61  TCCACACAAA TTGATCTTCT ATCATCTTGG AATCTGAATT GCAGGGAGGA GCAGTATGTA
      AGGTGTGTTT AACTAGAAGA TAGTAGAACC TTAGACTTAA CGTCCCTCCT CGTCATACAT

 121  AGACGACCGT TTAATTCAGG CATTCCGAAG GCATGAGCGC ATGGATTCTG TCACCAAGCG
      TCTGCTGGCA AATTAAGTCC GTAAGGCTTC CGTACTCGCG TACCTAAGAC AGTGGTTCGC

 181  TATAAAAGGA CCCTGGCATT GGGAAACCTA TGACGGACTG TTTTTGCTGT AGAAGTAGGG
      ATATTTTCCT GGGACCGTAA CCCTTTGGAT ACTGCCTGAC AAAAACGACA TCTTCATCCC

 241  ATTTTACAGA AGTCTCCTTG AATTTGCCCT GCCTGGGGCA GTTTTGCAGA GGAACCTGCC
      TAAAATGTCT TCAGAGGAAC TTAAACGGGA CGGACCCCGT CAAAACGTCT CCTTGGACGG

 301  AGAGATTTAT TGGCTGGTCA GTCTCTTGTG AAATAGTATC ATGTGAGAAA CAGTTTGTAG
      TCTCTAAATA ACCGACCAGT CAGAGAACAC TTTATCATAG TACACTCTTT GTCAAACATC

 361  AAAAAAACTA TACCTGGGAA GACCTTTGCA ACATTGTTCC TTCCATGGGC CAAGACTCAG
      TTTTTTTGAT ATGGACCCTT CTGGAAACGT TGTAACAAGG AAGGTACCCG GTTCTGAGTC

 421  TTAGGAGGCA TAAATCTGCC CGGAATAAAC TAGGCCAGGA TACAGCCATG TTTAGTTAAT
      AATCCTCCGT ATTTAGACGG GCCTTATTTG ATCCGGTCCT ATGTCGGTAC AAATCAATTA

 481  AATTTGGTTT TAGAATTCAC ACAGGCAGGA TTGGTTTTTT TGTGTCTTGG CAAGTGGAGC
      TTAAACCAAA ATCTTAAGTG TGTCCGTCCT AACCAAAAAA ACACAGAACC GTTCACCTCG

 541  ATATTTAACA TACAGGCATG GGAATCCTGC CTCTTAGCTT TTCCCACCCT CTTGTCTCAC
      TATAAATTGT ATGTCCGTAC CCTTAGGACG GAGAATCGAA AAGGGTGGGA GAACAGAGTG

 601  CAAGTTTTTT CTCTCCAAAG GTTTCCAGGA ATTTCTCATT AATGGCTGAT GCAAACTTAG
      GTTCAAAAAA GAGAGGTTTC CAAAGGTCCT TAAAGAGTAA TTACCGACTA CGTTTGAATC

 661  TGAATAATAA TGAATATAAA CAATGCTCAC CTCACCAAAA TTATATTATT TGCAGTCATT
      ACTTATTATT ACTTATATTT GTTACGAGTG GAGTGGTTTT AATATAATAA ACGTCAGTAA

 721  TGTGATAACA CAAATTTTAT CGCAATGGTT ATTATTTAAT TTGTGGCCAC ACACTGTGGT
      ACACTATTGT GTTTAAAATA GCGTTACCAA TAATAAATTA AACACCGGTG TGTGACACCA

 781  TATCTTTTGT TGTGGTTGTT TCTGAGAAAA TGTTCTTGGA TATGTAAGTG CCAATACCAG
      ATAGAAAACA ACACCAACAA AGACTCTTTT ACAAGAACCT ATACATTCAC GGTTATGGTC

 841  TGTGAAGTAT TGATCCCGGG CAGCAAAATA CAGCCTAAGG TTTGTAAACA TCAATTCTAT
      ACACTTCATA ACTAGGGCCC GTCGTTTTAT GTCGGATTCC AAACATTTGT AGTTAAGATA

 901  CTCAGTTCAT CAGAGGGCCT GAGAAGCTGC GGGGCAGTGT AAAGTAAAGT ATGCTGGGCT
      GAGTCAAGTA GTCTCCCGGA CTCTTCGACG CCCCGTCACA TTTCATTTCA TACGACCCGA

 961  GGTGGTGGTC AGCCTCCCGC CTGAAGAGTG ACCAGTGCTG GCCCGACGGA TCGCTGAGAT
      CCACCACCAG TCGGAGGGCG GACTTCTCAC TGGTCACGAC CGGGCTGCCT AGCGACTCTA

1021  ATTCTCCCAT AATGGCAAAA AAATAGGCAG TTTGATGTGA CCTGTTTAGT GTGGCTCTCC
      TAAGAGGGTA TTACCGTTTT TTTATCCGTC AAACTACACT GGACAAATCA CACCGAGAGG

1081  TCTTTTGAGC ATGTGTTAGC ATTTTTATTT TATACTCATC CAGTGAACTC TGCTCTTCCA
      AGAAAACTCG TACACAATCG TAAAAATAAA ATATGAGTAG GTCACTTGAG ACGAGAAGGT

1141  AGTGTGTTCA TGTATGTGCT AGATATATTA GCACAGCCTG CCTTCTGCTG CACAACGCCT
      TCACACAAGT ACATACACGA TCTATATAAT CGTGTCGGAC GGAAGACGAC GTGTTGCGGA

1201  TAGAGACCCG GCCTTTCAAT GAGCTTAGCT TGTGCTCTGT TTCTGCTCTC TTAGGTCTAA
      ATCTCTGGGC CGGAAAGTTA CTCGAATCGA ACACGAGACA AAGACGAGAG AATCCAGATT
```

Figure 10 (cont.)


```
1261  ACTATGGTGT CAGTTTTAAT AGAACAAAAG TATGCATCTT GCCTTGGCTT GAGCCTTTTC
      TGATACCACA GTCAAAATTA TCTTGTTTTC ATACGTAGAA CGGAACCGAA CTCGGAAAAG

1321  GTTTTCAATG CTGACTTCTC CCCTTTCTCT CCTGTGCTCA CCTTACCTTT CCAGAGTGTA
      CAAAAGTTAC GACTGAAGAG GGGAAAGAGA GGACACGAGT GGAATGGAAA GGTCTCACAT

1381  AGGGACAACT TTTAAGGAGG CGTGTCCCTG GTAGGGGCAT CCCTGTTCAC CAGGTGCCTG
      TCCCTGTTGA AAATTCCTCC GCACAGGGAC CATCCCCGTA GGGACAAGTG GTCCACGGAC

1441  TCATCACCCC ACTTGACTGA CATCTACCCT GGTGACTATG GGTTCCTCTT GTTTGTAGGG
      AGTAGTGGGG TGAACTGACT GTAGATGGGA CCACTGATAC CCAAGGAGAA CAAACATCCC

1501  AACGGTGGCT CCAGGTGGAG GCATCAATCT GTTGGGTTCT GGTTCCCGGC TGCCTTTGGT
      TTGCCACCGA GGTCCACCTC CGTAGTTAGA CAACCCAAGA CCAAGGGCCG ACGGAAACCA

1561  TTTGAAAGTC TCTTCTCTGT ATATTCCTAC CCTGCATTTG CTTTGTGTGG TGCTGATGCT
      AAACTTTCAG AGAAGAGACA TATAAGGATG GGACGTAAAC GAAACACACC ACGACTACGA

1621  GTGCGCAGTA GGATTCTTGG ATGACTCTCC ATCAGTCACA GACTCCCCCT GTTGCAAAGT
      CACGCGTCAT CCTAAGAACC TACTGAGAGG TAGTCAGTGT CTGAGGGGGA CAACGTTTCA

1681  GTCAGGCTGA CTCGACAGTC ACCGTAAAAT CTGAGTCAGT CACACACAGG CTGTCAGCCA
      CAGTCCGACT GAGCTGTCAG TGGCATTTTA GACTCAGTCA GTGTGTGTCC GACAGTCGGT

1741  CGGCTTCCAC TTGCATGGCT ATTCTATTTT CACACGTGAG TTTCTGTTGC TGGCTGGCTG
      GCCGAAGGTG AACGTACCGA TAAGATAAAA GTGTGCACTC AAAGACAACG ACCGACCGAC

1801  ACTGGCATTA TCTATGCTAA GTTGAAATCA GGAGTGCCCA GCAGAGCCCA TCATTCTCAC
      TGACCGTAAT AGATACGATT CAACTTTAGT CCTCACGGGT CGTCTCGGGT AGTAAGAGTG

1861  TGTCTTTGAA ACAAAGCTGT ACGGTTTGAT CGATGAACGT ATTTAAAGCA TTTCATGCAA
      ACAGAAACTT TGTTTCGACA TGCCAAACTA GCTACTTGCA TAAATTTCGT AAAGTACGTT

1921  TGACAAAGTG CTCAGTAGTG GAAGGCAGGC TGTGACCAGT CTGCCTGCTC CTTACTATAA
      ACTGTTTCAC GAGTCATCAC CTTCCGTCCG ACACTGGTCA GACGGACGAG GAATGATATT

1981  TTGTGAGGAT TTGTTACTGG AACAGTACAT GGAGGCCTGA CCTTGTGGGG GCACAGGGTG
      AACACTCCTA AACAATGACC TTGTCATGTA CCTCCGGACT GGAACACCCC CGTGTCCCAC

2041  GAACCTTAGC TGAATATAGT GTGTGTCTCA AGAGGAAGTC AGGGTACTAG CTCAGTGCTC
      CTTGGAATCG ACTTATATCA CACACAGAGT TCTCCTTCAG TCCCATGATC GAGTCACGAG

2101  AATCTCCAGG TACTATATAT ACATTTGCCC GTTTTATCTC TAATGTGAAA TAAATCCCCA
      TTAGAGGTCC ATGATATATA TGTAAACGGG CAAAATAGAG ATTACACTTT ATTTAGGGGT

2161  AACACTTGTT TATCGTGTAG CGTACCTAAA AGACTATTCT ATTATGGGTG TCCCCACTTT
      TTGTGAACAA ATAGCACATC GCATGGATTT TCTGATAAGA TAATACCCAC AGGGGTGAAA

2221  CTTGGTTTGG TCACCCCGAT CCCCCGGTCT TCTGCTGTAT CTAGAACAGT GACTATAAAT
      GAACCAAACC AGTGGGGCTA GGGGGCCAGA AGACGACATA GATCTTGTCA CTGATATTTA

2281  GATGTATGGG AATAGTGTTT CCATATGATC TGTTGTCTGG AGTATATGCT ACATGTTCAA
      CTACATACCC TTATCACAAA GGTATACTAG ACAACAGACC TCATATACGA TGTACAAGTT

2341  TTACTGTACA AAAACCCAGT GCAGCTGATG ATGCAAAGCA GTCTCTCTCT GTGTACAGTG
      AATGACATGT TTTTGGGTCA CGTCGACTAC TACGTTTCGT CAGAGAGAGA CACATGTCAC

2401  CCCCACCTAT TTAAAAATCA CGTACAASCC CAGAACACTG TGAAACACTT AACATAAGAA
      GGGGTGGATA AATTTTTAGT GCATGTTSGG GTCTTGTGAC ACTTTGTGAA TTGTATTCTT

2461  CAAACGCAGC GTCTGGATTC TTTCCAAGGA GAGCAGCTTT CTCCACAGGA ACACAGTAAC
      GTTTGCGTCG CAGACCTAAG AAAGGTTCCT CTCGTCGAAA GAGGTGTCCT TGTGTCATTG
```

Figure 10 (cont.)


```
2521  AAAAGAGGTC CGCCGCCATC CACACCCAGC CAAGACACCT CAGAGGCCAT AGGGACAACC
      TTTTCTCCAG GCGGCGGTAG GTGTGGGTCG GTTCTGTGGA GTCTCCGGTA TCCCTGTTGG

2581  TCCTTGCTGG CCAACACCTG CTGGAGCAGG GGCACAGGTC CCAGCAACTG ATCCTCAGTG
      AGGAACGACC GGTTGTGGAC GACCTCGTCC CCGTGTCCAG GGTCGTTGAC TAGGAGTCAC

2641  GATGGGTCCG CAGTCAAAGC CTTAATGGGC TCTCTTTTGA AGGGGAAAGA AAGAATTTCA
      CTACCCAGGC GTCAGTTTCG GAATTACCCG AGAGAAAACT TCCCCTTTCT TTCTTAAAGT

2701  AGCTTATGAT ATCCAACATT ATTATAGTTG ATGAGTTAGT AAATTCCAAA AAAAAAAGAT
      TCGAATACTA TAGGTTGTAA TAATATCAAC TACTCAATCA TTTAAGGTTT TTTTTTTCTA

2761  GATTTTATAT GTATGACATA AAAAAAATCT TTGTAAAGTG CGCAAGTGCA ATAATTTAAA
      CTAAAATATA CATACTGTAT TTTTTTTAGA AACATTTCAC GCGTTCACGT TATTAAATTT

2821  GAGGTCTTAT CTTTGCATTT ATAAATTATA AATATTGTAC ATGTGTGTAA TTTTTCATGT
      CTCCAGAATA GAAACGTAAA TATTTAATAT TTATAACATG TACACACATT AAAAAGTACA

2881  ATTCATTTGC AGTCTTTGTA TTTAAAAAAA CTTTACTGTT ATGTTTGTAT AATAGAACAT
      TAAGTAAACG TCAGAAACAT AAATTTTTTT GAAATGACAA TACAAACATA TTATCTTGTA

2941  TAATCATTTA TTATAACTCA GACAAGGTGT AAATAAATTC ATAATTCAAA CAGCCAGTAT
      ATTAGTAAAT AATATTGAGT CTGTTCCACA TTTATTTAAG TATTAAGTTT GTCGGTCATA

3001  ATATGCATAT ATGGGTGTTA CATTGCAAAA ATCTCTATCT TTGTTCTATT CACATGCTTA
      TATACGTATA TACCCACAAT GTAACGTTTT TAGAGATAGA AACAAGATAA GTGTACGAAT

3061  AAGAAGTAAG AAATCTTTTG TGGATATGTA ATTATACATA TAAAGTATAT ATATATGTAT
      TTCTTCATTC TTTAGAAAAC ACCTATACAT TAATATGTAT ATTTCATATA TATATACATA

3121  GATACATGAA ATATATTTAG AAATGTTCAT AATTTTAATG GATATTCTTT GGTGTGAATA
      CTATGTACTT TATATAAATC TTTACAAGTA TTAAAATTAC CTATAAGAAA CCACACTTAT

3181  ATTGAATACA ACATTTTTAA AATGAAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAA
      TAACTTATGT TGTAAAAATT TTACTTTTTT TTTTTTTTTT TTTTTTTTTT TTTTTT
```

Figure 11

3236 bp

Figure 12

```
   1  AAGTGTAAAT AAAATAAACA TCTAATAAAA AAAATTACAT ACCATAGAGG AACAAGATAA
      TTCACATTTA TTTTATTTGT AGATTATTTT TTTTAATGTA TGGTATCTCC TTGTTCTATT

  61  TTTCTGCCCA ACTTCATACC CTCCAGCGTA TAGTGTTGAG GTTTGGTCTG TTGCTGTGTA
      AAAGACGGGT TGAAGTATGG GAGGTCGCAT ATCACAACTC CAAACCAGAC AACGACACAT

 121  TTGTAATGTA ATGTTAAATT CTCTACCTGA AGGTCTAGGC CTACAAGTGA ATTCTCATGT
      AACATTACAT TACAATTTAA GAGATGGACT TCCAGATCCG GATGTTCACT TAAGAGTACA

 181  TTATAGAGTT TTGTTGTGCA AACCTTGTTC CTTAATTTAA AACTATGGTT AAAAAACAAA
      AATATCTCAA AACAACACGT TTGGAACAAG GAATTAAATT TTGATACCAA TTTTTTGTTT

 241  ACAAAACTGG CTACAGCCAA TAACTGAAGG GGGTTACCTT GTTGAAGGGG TGGAAAAGAG
      TGTTTTGACC GATGTCGGTT ATTGACTTCC CCCAATGGAA CAACTTCCCC ACCTTTTCTC

 301  AGAGGAGGAA GAAGGGAGTT CAAGAGAAGG AGAAGAACAA GAGGAGAGGA GGAAGCTGCC
      TCTCCTCCTT CTTCCCTCAA GTTCTCTTCC TCTTCTTGTT CTCCTCTCCT CCTTCGACGG

 361  ACGAGGGGAG ATGGGCCATG AGAACTTGGC CAGGAGAAAT AGCCAGTATC TGGAGTACAC
      TGCTCCCCTC TACCCGGTAC TCTTGAACCG GTCCTCTTTA TCGGTCATAG ACCTCATGTG

 421  CACTGAGGAG GTAGCCAGGC TAGCAGTTAG AAGAGTAGAT TAGGGGTTAT TTTTCCCCCA
      GTGACTCCTC CATCGGTCCG ATCGTCAATC TTCTCATCTA ATCCCCAATA AAAAGGGGGT

 481  CTCCACATAG TTATCAAAGC CAAATAAAAT AACCATAGTC TGAGTCTCAT CTATTTGTAA
      GAGGTGTATC AATAGTTTCG GTTTATTTTA TTGGTATCAG ACTCAGAGTA GATAAACATT

 541  GCTAGTTGGG TATAAGATTA ATTTGGCTGT ACTACAGTTT AGATTTCTAA CATAGGAACT
      CGATCAACCC ATATTCTAAT TAAACCGACA TGATGTCAAA TCTAAAGATT GTATCCTTGA

 601  ATCAAAAACT TGCTCAAACA AGAACATGCT GACAATATTT TAAAATGATT ATTTATATTG
      TAGTTTTTGA ACGAGTTTGT TCTTGTACGA CTGTTATAAA ATTTTACTAA TAAATATAAC

 661  TTTGCACTTT CTAAAGTTTC TTCTAAATGT TCCATGGTCA AATTAAAAAA TATACATATT
      AAACGTGAAA GATTTCAAAG AAGATTTACA AGGTACCAGT TTAATTTTTT ATATGTATAA

 721  GGCTATTAAA TTCGTCTAAG TGGGGCTGGA GAGATAGCTC AGAGGTTAAG AGCACTGACT
      CCGATAATTT AAGCAGATTC ACCCCGACCT CTCTATCGAG TCTCCAATTC TCGTGACTGA

 781  GCTCTTCCAG AGGTCCTGAG TTCAATTCCC AGCGACCACA TGGTGGCTCA CAGCCATCTG
      CGAGAAGGTC TCCAGGACTC AAGTTAAGGG TCGCTGGTGT ACCACCGAGT GTCGGTAGAC

 841  TAATAGATAG GATCTGACGC CCTCTTCTGG AGTGTCTGAA GACAGCTACA ATGTACTCAT
      ATTATCTATC CTAGACTGCG GGAGAAGACC TCACAGACTT CTGTCGATGT TACATGAGTA

 901  ATATATTAAA TAAATAATAT TAGAAAATTC TTCTAAGTGT ATCATTTATA GAATATTTAA
      TATATAATTT ATTTATTATA ATCTTTTAAG AAGATTCACA TAGTAAATAT CTTATAAATT

 961  TATATAAAGT AAATGCCTCA GGAAATATAA ACTTGGAATT AAATCAAAGA ACTTCATGAG
      ATATATTTCA TTTACGGAGT CCTTTATATT TGAACCTTAA TTTAGTTTCT TGAAGTACTC

1021  TAGTGGGCCA CAAAAAATGT GTACCAGGGG AAGACCGGAG GGAGGGGAGA AGGAAGGGAT
      ATCACCCGGT GTTTTTTACA CATGGTCCCC TTCTGGCCTC CCTCCCCTCT TCCTTCCCTA

1081  GGAGATAGAA TTTTGCCTCT GCATTCCTTG GGCTGGCACA GGTATAATGC TGTGGGAATT
      CCTCTATCTT AAAACGGAGA CGTAAGGAAC CCGACCGTGT CCATATTACG ACACCCTTAA

1141  GGGAAACTAC AAGGAAGCTG CAAAGCTGGG CGGAACTCGT TTCCGCAAGC TGGGCTCATC
      CCCTTTGATG TTCCTTCGAC GTTTCGACCC GCCTTGAGCA AAGGCGTTCG ACCCGAGTAG

1201  TAAGTGTCCA TGCATGGCTG CCACACTGCA GTGAACTTTA AAACATTTGT GTTCCAGAGA
      ATTCACAGGT ACGTACCGAC GGTGTGACGT CACTTGAAAT TTTGTAAACA CAAGGTCTCT
```

Figure 12 (cont.)

```
1261  TGTAGAGATG CTCACAATAG TACAAAGGCG GGAGGGAGGT ATTTCCAGAC TAAGAGGAAG
      ACATCTCTAC GAGTGTTATC ATGTTTCCGC CCTCCCTCCA TAAAGGTCTG ATTCTCCTTC

1321  AAAAACCATT GCTGATTAAA CATCTGCATA TGAGCGCCCC CACCTCCATA CACACACACA
      TTTTTGGTAA CGACTAATTT GTAGACGTAT ACTCGCGGGG GTGGAGGTAT GTGTGTGTGT

1381  CACACACACA CACACACACA CAACCAAACA GAACAAATAC ACATGCATGT CTACAGCCTG
      GTGTGTGTGT GTGTGTGTGT GTTGGTTTGT CTTGTTTATG TGTACGTACA GATGTCGGAC

1441  CAGGAACAAA ATGGTATGTC TGTGAGGAAC CAGGAGATGC ACAGGTCCTA ACCTCTGTCT
      GTCCTTGTTT TACCATACAG ACACTCCTTG GTCCTCTACG TGTCCAGGAT TGGAGACAGA

1501  CCTACAAGCC CTGAAGTCTG GTCAGGGTCA AATGTACAAA AGCAGGCTAA GGAAGCTGTT
      GGATGTTCGG GACTTCAGAC CAGTCCCAGT TTACATGTTT TCGTCCGATT CCTTCGACAA

1561  TAGTGAAAGA TTTTTTTCTT CAACTCTAGG AACAACCTAT TTCCTAGGAT TTGGAGAGTG
      ATCACTTTCT AAAAAAAGAA GTTGAGATCC TTGTTGGATA AAGGATCCTA AACCTCTCAC

1621  CTCAGGAGGA AACATTCAGA CAACTGATGC TCTCTGTGTA CCCCAGATTC AGGTATTGGG
      GAGTCCTCCT TTGTAAGTCT GTTGACTACG AGAGACACAT GGGGTCTAAG TCCATAACCC

1681  GTAGTTAGTT GTGCTCATGT ATGTGCTAGA TATATTAGCA CAGCCTGCCT TCTGCTGCAC
      CATCAATCAA CACGAGTACA TACACGATCT ATATAATCGT GTCGGACGGA AGACGACGTG

1741  AACGCCTTAG AGACCCGGCC TTTCAATGAG CTTAGCTTGT GCTCTGTTTC TGCTCTCTTA
      TTGCGGAATC TCTGGGCCGG AAAGTTACTC GAATCGAACA CGAGACAAAG ACGAGAGAAT

1801  GGTCTAAACT ATGGTGTCAG TTTTAATAGA ACAAAAGTAT GCATCTTGCC TTGGCTTGAG
      CCAGATTTGA TACCACAGTC AAAATTATCT TGTTTTCATA CGTAGAACGG AACCGAACTC

1861  CCTTTTCGTT TTCAATGCTG ACTTCTCCCC TTTCTCTCCT GTGCTCACCT TACCTTTCCA
      GGAAAAGCAA AAGTTACGAC TGAAGAGGGG AAAGAGAGGA CACGAGTGGA ATGGAAAGGT

1921  GAGTGTAAGG GACAACTTTT AAGGAGGCGT GTCCCTGGTA GGGGCATCCC TGTTCACCAG
      CTCACATTCC CTGTTGAAAA TTCCTCCGCA CAGGGACCAT CCCCGTAGGG ACAAGTGGTC

1981  GTGCCTGTCA TCACCCCACT TGACTGACAT CTACCCTGGT GACTATGGGT TCCTCTTGTT
      CACGGACAGT AGTGGGGTGA ACTGACTGTA GATGGGACCA CTGATACCCA AGGAGAACAA

2041  TGTAGGGAAC GGTGGCTCCA GGTGGAGGCA TCAATCTGTT GGGTTCTGGT TCCCGGCTGC
      ACATCCCTTG CCACCGAGGT CCACCTCCGT AGTTAGACAA CCCAAGACCA AGGGCCGACG

2101  CTTTGGTTTT GAAAGTCTCT TCTCTGTATA TTCCTACCCT GCATTTGCTT TGTGTGGTGC
      GAAACCAAAA CTTTCAGAGA AGAGACATAT AAGGATGGGA CGTAAACGAA ACACACCACG

2161  TGATGCTGTG CGCAGCAGGA TTCTTGGATG ACTCTCCATC AGTCACAGAC TCCCCCTGTT
      ACTACGACAC GCGTCGTCCT AAGAACCTAC TGAGAGGTAG TCAGTGTCTG AGGGGGACAA

2221  GCAAAGTGTC AGGCTGACTC GACAGTCACC GTAAAATCTG AGTCAGTCAC ACACAGGCTG
      CGTTTCACAG TCCGACTGAG CTGTCAGTGG CATTTTAGAC TCAGTCAGTG TGTGTCCGAC

2281  TCAGCCACGG CTTCCACTTG CATGGCTATT CTATTTTCAC ACGTGAGTTT CTGTTGCTGG
      AGTCGGTGCC GAAGGTGAAC GTACCGATAA GATAAAAGTG TGCACTCAAA GACAACGACC

2341  CTGGCTGACT GGCATTATCT ATGCTAAGTT GAAATCAGGG GTGCCCAGCA GAGCCCATCA
      GACCGACTGA CCGTAATAGA TACGATTCAA CTTTAGTCCC CACGGGTCGT CTCGGGTAGT

2401  TTCTCACTGT CTTTGAAACA AAGCTGTACG GTTTGATCGA TGAACGTATT TAAAGCATTT
      AAGAGTGACA GAAACTTTGT TTCGACATGC CAAACTAGCT ACTTGCATAA ATTTCGTAAA

2461  CATGCAATGA CAAAGTGCTC AGTAGTGGAA GGCAGGCTGT GACCAGTCTG CCTGCTCCTT
      GTACGTTACT GTTTCACGAG TCATCACCTT CCGTCCGACA CTGGTCAGAC GGACGAGGAA
```

```
2521  ACTATAATTG TGAGGATTTG TTACTGGAAC AGTACATGGA GGCCTGACCT TGTGGGGGCA
      TGATATTAAC ACTCCTAAAC AATGACCTTG TCATGTACCT CCGGACTGGA ACACCCCCGT

2581  CAGGGTGGAA CCTTAGCTGA ATATAGTGTG TGTCTCAAGA GGAAGTCAGG GTACTAGCTC
      GTCCCACCTT GGAATCGACT TATATCACAC ACAGAGTTCT CCTTCAGTCC CATGATCGAG

2641  AGTGCTCAAT CTCCAGGTAC TATATATACA TTTGCCCGTT TTATCTCTAA TGTGAAATAA
      TCACGAGTTA GAGGTCCATG ATATATATGT AAACGGGCAA AATAGAGATT ACACTTTATT

2701  ATCCCCAAAC ACTTGTTTAT CGTGTAGCGT ACCTAAAAGA CTATTCTATT ATGGGTGTCC
      TAGGGGTTTG TGAACAAATA GCACATCGCA TGGATTTTCT GATAAGATAA TACCCACAGG

2761  CCACTTTCTT GGTTTGGTCA CCCCGATCCC CCGGTCTTCT GCTGTATCTA GAACAGTGAC
      GGTGAAAGAA CCAAACCAGT GGGGCTAGGG GGCCAGAAGA CGACATAGAT CTTGTCACTG

2821  TATAAATGAT GTATGGGAAT AGTGTTTCCA TATGATCTGT TGTCTGGAGT ATATGCTACA
      ATATTTACTA CATACCCTTA TCACAAAGGT ATACTAGACA ACAGACCTCA TATACGATGT

2881  TGTTCATTTA CTGTACAAAA ACCCAGTGCA GCTGATGATG CAAAGCAGTC TCTCTCTGTG
      ACAAGTAAAT GACATGTTTT TGGGTCACGT CGACTACTAC GTTTCGTCAG AGAGAGACAC

2941  TACAGTGCCC CACCTATTTA AAAATCACGT ACTTGCCCAG AACACTGTGA AACACTTAAC
      ATGTCACGGG GTGGATAAAT TTTTAGTGCA TGAACGGGTC TTGTGACACT TTGTGAATTG

3001  ATAAGAACAA ACGCAGCGTC TGGATTCTTT CCAAGGAGAG CAGCTTTCTC CACAGGAACA
      TATTCTTGTT TGCGTCGCAG ACCTAAGAAA GGTTCCTCTC GTCGAAAGAG GTGTCCTTGT

3061  CAGTAACAAA AGAGGTCCGC CGCCATCCAC ACCCAGCCAA GACACCTCAG AGGCCATAGG
      GTCATTGTTT TCTCCAGGCG GCGGTAGGTG TGGGTCGGTT CTGTGGAGTC TCCGGTATCC

3121  GACAACCTCC TTGCTGGCCA ACACCTGCTG GAGCAGGGGC ACAGGTCCCA GCAACTGATC
      CTGTTGGAGG AACGACCGGT TGTGGACGAC CTCGTCCCCG TGTCCAGGGT CGTTGACTAG

3181  CTCAGTGGAT GGGTCTGCAG CCAAAGCCTT AATGGGCTCT CTTTTGAAGG GGAAAGAAAG
      GAGTCACCTA CCCAGACGTC GGTTTCGGAA TTACCCGAGA GAAAACTTCC CCTTTCTTTC

3241  AATTTCAAGC TTATGATATC CAATATTATT ATAGTTGATG AGTTAGTAAA TTCCAAAAAA
      TTAAAGTTCG AATACTATAG GTTATAATAA TATCAACTAC TCAATCATTT AAGGTTTTTT

3301  AAAAGATGAT TTTATATGTA TGACATAAAA AAAATCTTTG TAAAGTGCGC AAGTGCAATA
      TTTTCTACTA AAATATACAT ACTGTATTTT TTTTAGAAAC ATTTCACGCG TTCACGTTAT

3361  ATTTAAAGAG GTCTTATCTT TGCATTTATA AATTATAAAT ATTGTACATG TGTGTAATTT
      TAAATTTCTC CAGAATAGAA ACGTAAATAT TTAATATTTA TAACATGTAC ACACATTAAA

3421  TTCATGTATT CATTTGCAGT CTTTGTATTT AAAAAAACTT TACTGTTATG TTTGTATAAT
      AAGTACATAA GTAAACGTCA GAAACATAAA TTTTTTTGAA ATGACAATAC AAACATATTA

3481  AGAACATTAA TCATTTATTA TAACTCAGAC AAGGTGTAAA TAAATTCATA ATTCAAACAG
      TCTTGTAATT AGTAAATAAT ATTGAGTCTG TTCCACATTT ATTTAAGTAT TAAGTTTGTC

3541  CCAGTATATA TGCATATATG GGTGTTACAT TGCAAAAATC TCTATCTTTG TTCTATTCAC
      GGTCATATAT ACGTATATAC CCACAATGTA ACGTTTTTAG AGATAGAAAC AAGATAAGTG

3601  ATGCTTAAAG AAGTAAGAAA TCTTTTGTGG ATATGTAATT ATACATATAA AGTATATATA
      TACGAATTTC TTCATTCTTT AGAAAACACC TATACATTAA TATGTATATT TCATATATAT

3661  TATGTATGAT ACATGAAATA TATTTAGAAA TGTTCATAAT TTTAATGGAT ATTCTTTGGT
      ATACATACTA TGTACTTTAT ATAAATCTTT ACAAGTATTA AAATTACCTA TAAGAAACCA

3721  GTGAATAATT GAATACAACA TTTTTAAAAT AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA
      CACTTATTAA CTTATGTTGT AAAAATTTTA TTTTTTTTTT TTTTTTTTTT TTTTTTTTTT
```

Figure 12 (cont.)

```
3781  AAAATTTTTT TTTTTTTTTT TTATTCCAGA GATTAAAGAC ACTAGATCTT TAACCTTGAA
      TTTTAAAAAA AAAAAAAAAA AATAAGGTCT CTAATTTCTG TGATCTAGAA ATTGGAACTT

3841  GGGCAGGCAA GAGGTCGGCA ATGCTGTCAA CATAGAAGTC AGGGACCATT TTCTTCTTGA
      CCCGTCCGTT CTCCAGCCGT TACGACAGTT GTATCTTCAG TCCCTGGTAA AAGAAGAACT

3901  ACATGCAGTC ACTTTCCTGA TTGCTCTTCA CATCCTCAAG GCTCCGGAAT TCCGGGGGTG
      TGTACGTCAG TGAAAGGACT AACGAGAAGT GTAGGAGTTC CGAGGCCTTA AGGCCCCCAC

3961  TGGTGGGCTT TGATCTCAGG ACTCTGGAGG CAGAAGCAGG CAGATCTCTG TGAATATGAG
      ACCACCCGAA ACTAGAGTCC TGAGACCTCC GTCTTCGTCC GTCTAGAGAC ACTTATACTC

4021  GCCAGCCTGC ACTACACAGA GCTCCAGACC AGTCATGGCT ACATCATGAA ACCCTGTCTC
      CGGTCGGACG TGATGTGTCT CGAGGTCTGG TCAGTACCGA TGTAGTACTT TGGGACAGAG

4081  AAAAAGAAAA TAAAAACTGT TGTGTTTCTA CCATAGTGTT AAACTCAGAG TCTGAGTAAT
      TTTTTCTTTT ATTTTTGACA ACACAAAGAT GGTATCACAA TTTGAGTCTC AGACTCATTA

4141  GTCGGGCTGA CATGCTCGGG TGTTTAACAT ACCTTCAGCT TTGACGAGGC GCTGAACAGT
      CAGCCCGACT GTACGAGCCC ACAAATTGTA TGGAAGTCGA AACTGCTCCG CGACTTGTCA

4201  CAAAGTCTGG CCTTGGGGAG CGGTGGCTGT GTTTGTGCTC AAGTCCACCG TGAAATCCTG
      GTTTCAGACC GGAACCCCTC GCCACCGACA CAAACACGAG TTCAGGTGGC ACTTTAGGAC

4261  ATTGTGAATT TGGACAACCG TGTCCTTCTT CTTGGCCTTC CATGCAACCT CCAACTTCAT
      TAACACTTAA ACCTGTTGGC ACAGGAAGAA GAACCGGAAG GTACGTTGGA GGTTGAAGTA

4321  GTTGGTCATT TTGTCAAAAC ACTGTGTGAT GTTTTTATCA ATATACTGCC ATTCCACATA
      CAACCAGTAA AACAGTTTTG TGACACACTA CAAAAATAGT TATATGACGG TAAGGTGTAT

4381  TGTAGAGATG TAGTCTGCCT GGCTTTCCTT TTCTTTAGCC AATCGAATGC TCTTGATCAT
      ACATCTCTAC ATCAGACGGA CCGAAAGGAA AAGAAATCGG TTAGCTTACG AGAACTAGTA

4441  GCCCTCAATC TCATCTCTAG CTTTTATCAC GTCTCTGCTA ATTCCTGAAA CTTGAATCGA
      CGGGAGTTAG AGTAGAGATC GAAAATAGTG CAGAGACGAT TAAGGACTTT GAACTTAGCT

4501  AGTTTTCTTC TGGTTCATCT CAATGGTGAT GTTCAGTTCC TTCTGAATCT CATTCAGTTT
      TCAAAAGAAG ACCAAGTAGA GTTACCACTA CAAGTCAAGG AAGACTTAGA GTAAGTCAAA

4561  CTCGTACTCC TCCATGTCAA AGTCACTGAC ACACTCATCG TCATTGGTGT AGGAAAGCTG
      GAGCATGAGG AGGTACAGTT TCAGTGACTG TGTGAGTAGC AGTAACCACA TCCTTTCGAC

4621  CTCTTTGGTA ATCAGTTCCT TTAGCCAGGA GATTGTTTTG TTCACACTGT CTACCCCTGA
      GAGAAACCAT TAGTCAAGGA AATCGGTCCT CTAACAAAAC AAGTGTGACA GATGGGGACT

4681  ACCACATACC TGGAAAACTG TGTGCTCTAT TTTCTTTTCC AAAACCAGGG TGTTCTTTTT
      TGGTGTATGG ACCTTTTGAC ACACGAGATA AAAGAAAAGG TTTTGGTCCC ACAAGAAAAA

4741  GGGGGAAGCT TGCTTGGGAA AGCCAAGAAA GGCTAAAGAG AAAATGGAAA TTAATGTTTC
      CCCCCTTCGA ACGAACCCTT TCGGTTCTTT CCGATTTCTC TTTTACCTTT AATTACAAAG

4801  TTTTACTCCC TTCAACATCA AGGTTAGGAA TATGTATTTC ATAAAAGCTA ACAACTCACA
      AAAATGAGGG AAGTTGTAGT TCCAATCCTT ATACATAAAG TATTTTCGAT TGTTGAGTGT

4861  GGCAATCTTA GACATCACTG ACTGCTTGGC AGGCGACTGC TTGGGGGGAG CTGGAGAGCC
      CCGTTAGAAT CTGTAGTGAC TGACGAACCG TCCGCTGACG AACCCCCCTC GACCTCTCGG

4921  TTCTCTTTCT TTCATGTTGT CGTAAAAAAA TTGCAGAATA TGGGGCTGGA AGATAACAAC
      AAGAGAAAGA AAGTACAACA GCATTTTTTT AACGTCTTAT ACCCCGACCT TCTATTGTTG

4981  TTTAACTCTC TTCACAGCCT GCACTGATTT TTTCTGGACA AATTCTTCAA TGGCATCTAT
      AAATTGAGAG AAGTGTCGGA CGTGACTAAA AAAGACCTGT TTAAGAAGTT ACCGTAGATA
```

Figure 12 (cont.)

```
5041  TATCGCTTTT GCTACTACGT TTGGGTCCTG TTGAGCATTT CCTTCAAAAA CAAAAAAAGC
      ATAGCGAAAA CGATGATGCA AACCCAGGAC AACTCGTAAA GGAAGTTTTT GTTTTTTTCG

5101  ACATTTTTAA AAAGTCAAGG TTAAGATCCA CCTGCAAAAA AAAGCTGCAA TATAAGCGAG
      TGTAAAAATT TTTCAGTTCC AATTCTAGGT GGACGTTTTT TTTCGACGTT ATATTCGCTC

5161  GAATTCTAGT TGTCACAGGA AATAAAAATG TCTGTTCCCA CTATAATCAA TGTAGACTGA
      CTTAAGATCA ACAGTGTCCT TTATTTTTAC AGACAAGGGT GATATTAGTT ACATCTGACT

5221  TAATATTATG CCAGCAAATA GTTTTGAAGT CCTAGGCACA GTGGGAGGAG GTTTTGTTCC
      ATTATAATAC GGTCGTTTAT CAAAACTTCA GGATCCGTGT CACCCTCCTC CAAAACAAGG

5281  ACGCTGTTCA TAAGCCAATA CCCCAGCAAA AGACCTTAAA GGACAACTTG TAATTTGGGA
      TGCGACAAGT ATTCGGTTAT GGGGTCGTTT TCTGGAATTT CCTGTTGAAC ATTAAACCCT

5341  CATTCACATC TGTCCTCTTC ATCTGATCTG GCTCCCAGTG TCACTCTCTA ACACGGTCCT
      GTAAGTGTAG ACAGGAGAAG TAGACTAGAC CGAGGGTCAC AGTGAGAGAT TGTGCCAGGA

5401  TAGAGGGACA ATTTATCCCT GCCTCTGCTT GATCTTATGC ATGTATCTGT ATTCTTCCAG
      ATCTCCCTGT TAAATAGGGA CGGAGACGAA CTAGAATACG TACATAGACA TAAGAAGGTC

5461  CCATCCCTGG CGACCTGATT TTTCTAAGGC ACCCAAAACT GTAAGCTACT TCTTATAATC
      GGTAGGGACC GCTGGACTAA AAAGATTCCG TGGGTTTTGA CATTCGATGA AGAATATTAG

5521  TATAATTCTG AGCATATTAG TTAGCCTGAG CCTCCAGGAT ATCTTTCTTC CCTATACTCA
      ATATTAAGAC TCGTATAATC AATCGGACTC GGAGGTCCTA TAGAAAGAAG GGATATGAGT

5581  GTCCAGTTTT AGCTGCCCAG AAGGATTCAA AGCTGATCTA CGAGTAGATC ACTCCTGTCT
      CAGGTCAAAA TCGACGGGTC TTCCTAAGTT TCGACTAGAT GCTCATCTAG TGAGGACAGA

5641  ACAGCTTGTT CCAGATCTTG TTTCTCAAGC CCTGGAAGCC ATCAGCCAGG TAAGATTGTA
      TGTCGAACAA GGTCTAGAAC AAAGAGTTCG GGACCTTCGG TAGTCGGTCC ATTCTAACAT

5701  AAACAATCCC TTTCTAATCA TGGGTGTGGC CCAAAGTGAA TGGCCGGAAT TC
      TTTGTTAGGG AAAGATTAGT ACCCACACCG GGTTTCACTT ACCGGCCTTA AG
```

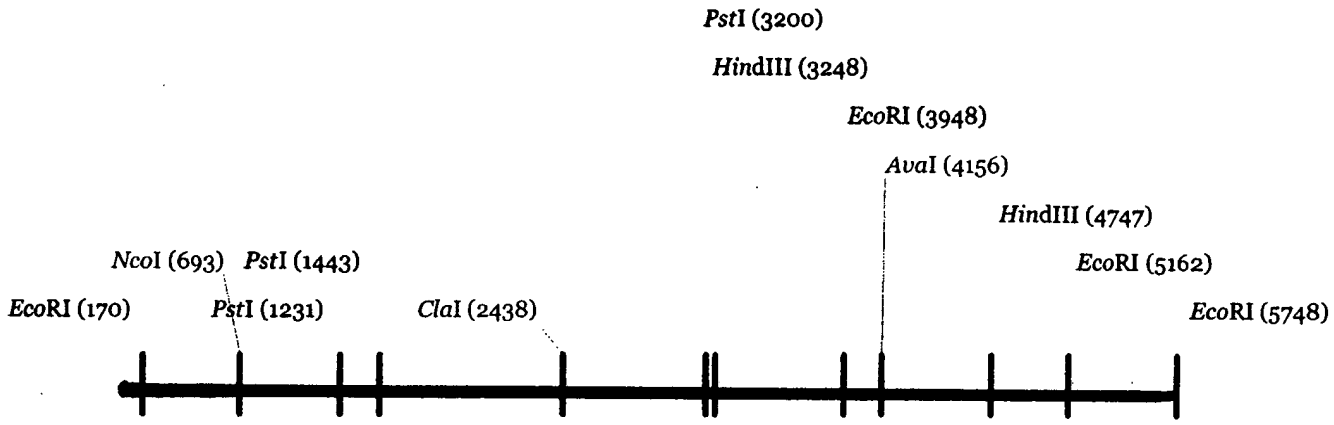


Figure 13

5752 bp

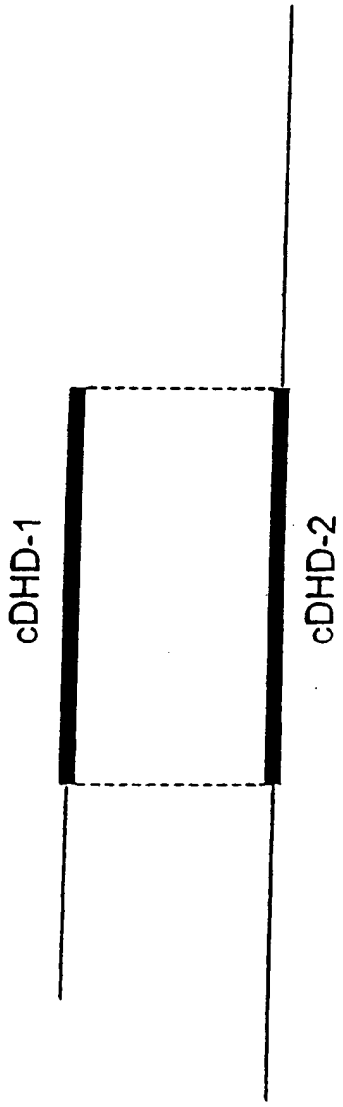


Figure 14

Figure 15

```
   1  CGCCCGGGCA GGTCTGTTGG AGGGCAGTTG GTCAACCTGA CCAGAGAGAG CTGAGCTGGA
      GCGGGCCCGT CCAGACAACC TCCCGTCAAC CAGTTGGACT GGTCTCTCTC GACTCGACCT

  61  AGACCCCACT GATGGTGTGC TGCCTTTCAG TCCAGGAAGA AAGAAAGGAA GGATTCTGAG
      TCTGGGGTGA CTACCACACG ACGGAAAGTC AGGTCCTTCT TTCTTTCCTT CCTAAGACTC

 121  GATTTGGGCA AAGCCACATT CCTGGAGAAG TCTGTATACT GATGCCAAAC CCAAGAGCTG
      CTAAACCCGT TTCGGTGTAA GGACCTCTTC AGACATATGA CTACGGTTTG GGTTCTCGAC

 181  AGCTGCTGAT GAGGCCCAGG GAGTAGCCCA CGCGCCCTGA GCTGTTGGCT AGCAAGGCCT
      TCGACGACTA CTCCGGGTCC CTCATCGGGT GCGCGGGACT CGACAACCGA TCGTTCCGGA

 241  TCCTGCTCCA TGTGGCATGG AAAAATTATA TGGTTTGACG GATGAAAAGG TGAAGGCCTA
      AGGACGAGGT ACACCGTACC TTTTTAATAT ACCAAACTGC CTACTTTTCC ACTTCCGGAT

 301  TCTTTCTCTC CATCCCCAGG TATTAGATGA ATTTGTTTCT GAAAGTGTTA GTGCAGAGAC
      AGAAAGAGAG GTAGGGGTCC ATAATCTACT TAAACAAAGA CTTTCACAAT CACGTCTCTG

 361  TGTGGAAAAG TGGCTGAAGA GGAAAACCAA CAAAGCAAAA GATGAACCAT CTCCCAAGGA
      ACACCTTTTC ACCGACTTCT CCTTTTGGTT GTTTCGTTTT CTACTTGGTA GAGGGTTCCT

 421  AGTCAGCAGG TACCAGGATA CGAATATGCA GGGAGTCGTG TACGAGCTGA ACAGCTACAT
      TCAGTCGTCC ATGGTCCTAT GCTTATACGT CCCTCAGCAC ATGCTCGACT TGTCGATGTA

 481  AGAGCAGCGC CTGGACACGG GCGGGGACAA CCACCTGCTC CTCTATGAGC TCAGCAGCAT
      TCTCGTCGCG GACCTGTGCC CGCCCCTGTT GGTGGACGAG GAGATACTCG AGTCGTCGTA

 541  CATCAGGATA GCCACAAAAG CCGACGGATT TGCACTGTAC TTCCTTGGAG AGTGCAATAA
      GTAGTCCTAT CGGTGTTTTC GGCTGCCTAA ACGTGACATG AAGGAACCTC TCACGTTATT

 601  TAGCCTGTGT GTGTTCATAC CACCCGGGAT GAAGGAAGGC CAACCCCGGC TCATCCCTGC
      ATCGGACACA CACAAGTATG GTGGGCCCTA CTTCCTTCCG GTTGGGGCCG AGTAGGGACG

 661  AGGGCCCATC ACCCAGGGTA CCACCATCTC TGCCTACGTG GCCAAGTCTA GGAAGACGTT
      TCCCGGGTAG TGGGTCCCAT GGTGGTAGAG ACGGATGCAC CGGTTCAGAT CCTTCTGCAA

 721  GTTGGTAGAG GATATCCTTG GGGATGAGCG ATTTCCTCGA GGTACTGGCC TGGAATCAGG
      CAACCATCTC CTATAGGAAC CCCTACTCGC TAAAGGAGCT CCATGACCGG ACCTTAGTCC

 781  AACCCGCATC CAGTCTGTTC TTTGCTTGCC CATTGTCACT GCCATTGGAG ACTTGATTGG
      TTGGGCGTAG GTCAGACAAG AAACGAACGG GTAACAGTGA CGGTAACCTC TGAACTAACC

 841  CATCCTTGAA CTGTACAGGC ACTGGGGCAA AGAGGCCTTC TGCCTCAGCC ATCAGGAGGT
      GTAGGAACTT GACATGTCCG TGACCCCGTT TCTCCGGAAG ACGGAGTCGG TAGTCCTCCA

 901  TGCAACAGCC AATCTTGCTT GGGCTTCCGT AGCAATACAC CAGGTGCAGG TGTGTAGAGG
      ACGTTGTCGG TTAGAACGAA CCCGAAGGCA TCGTTATGTG GTCCACGTCC ACACATCTCC

 961  TCTCGCCAAA CAGACCGAAC TGAATGACTT CCTACTCGAC GTATCAAAGA CATACTTTGA
      AGAGCGGTTT GTCTGGCTTG ACTTACTGAA GGATGAGCTG CATAGTTTCT GTATGAAACT

1021  TAACATAGTT GCCATAGACT CTCTACTTGA ACACATCATG ATATATGCAA AAAATCTAGT
      ATTGTATCAA CGGTATCTGA GAGATGAACT TGTGTAGTAC TATATACGTT TTTTAGATCA

1081  GAACGCCGAC CGCTGCGCGC TCTTCCAGGT GGACCACAAG AACAAGGAGC TGTACTCGGA
      CTTGCGGCTG GCGACGCGCG AGAAGGTCCA CCTGGTGTTC TTGTTCCTCG ACATGAGCCT

1141  CCTGTTTGAC ATTGGGGAGG AGAAGGAGGG GAAGCCCATC TTCAAGAAGA CCAAGGAGAT
      GGACAAACTG TAACCCCTCC TCTTCCTCCC CTTCGGGTAG AAGTTCTTCT GGTTCCTCTA

1201  CAGATTTTCC ATTGAGAAAG GGATTGCTGG TCAAGTGGCA AGAACAGGCG AAGTCTTGAA
      GTCTAAAAGG TAACTCTTTC CCTAACGACC AGTTCACCGT TCTTGTCCGC TTCAGAACTT
```

Figure 15 (cont.)

```
1261  CATTCCCGAT GCCTACGCGG ACCCTCGCTT TAACAGGGAG GTGGACCTGT ACACAGGCTA
      GTAAGGGCTA CGGATGCGCC TGGGAGCGAA ATTGTCCCTC CACCTGGACA TGTGTCCGAT

1321  CACCACGAGG AACATTCTGT GTATGCCCAT AGTGAGCCGA GGCAGCGTGA TTGGCGTGGT
      GTGGTGCTCC TTGTAAGACA CATACGGGTA TCACTCGGCT CCGTCGCACT AACCGCACCA

1381  GCAGATGGTG AACAAGATCA GCGGTAGCGC CTTCTCCAAG ACAGACGAGA ACAACTTCAA
      CGTCTACCAC TTGTTCTAGT CGCCATCGCG GAAGAGGTTC TGTCTGCTCT TGTTGAAGTT

1441  GATGTTTGCT GTCTTCTGCG CACTGGCCTT GCACTGTGCT AACATGTACC ACAGGATCCG
      CTACAAACGA CAGAAGACGC GTGACCGGAA CGTGACACGA TTGTACATGG TGTCCTAGGC

1501  CCACTCAGAA TGCATCTACA GGGTTACCAT GGAGAAGCTT TCCTACCACA GCATCTGCAC
      GGTGAGTCTT ACGTAGATGT CCCAATGGTA CCTCTTCGAA AGGATGGTGT CGTAGACGTG

1561  CTCCGAGGAG TGGCAAGGCC TCATGCGCTT CAACCTACCA GCACGCATCT GCCGGGACAT
      GAGGCTCCTC ACCGTTCCGG AGTACGCGAA GTTGGATGGT CGTGCGTAGA CGGCCCTGTA

1621  CGAGCTATTC CACTTTGACA TTGGTCCTTT CGAGAACATG TGGCCTGGGA TCTTTGTCTA
      GCTCGATAAG GTGAAACTGT AACCAGGAAA GCTCTTGTAC ACCGGACCCT AGAAACAGAT

1681  CATGATCCAT CGGTCTTGTG GGACATCCTG TTTTGAACTT GAAAAATTGT GCCGTTTTAT
      GTACTAGGTA GCCAGAACAC CCTGTAGGAC AAAACTTGAA CTTTTTAACA CGGCAAAATA

1741  CATGTCTGTG AAGAAGAACT ATCGGCGGGT TCCTTACCAC AACTGGAAGC ATGCAGTCAC
      GTACAGACAC TTCTTCTTGA TAGCCGCCCA AGGAATGGTG TTGACCTTCG TACGTCAGTG

1801  GGTGGCACAC TGCATGTATG CCATACTTCA AAACAACAAT GGCCTCTTCA CAGACCTCGA
      CCACCGTGTG ACGTACATAC GGTATGAAGT TTTGTTGTTA CCGGAGAAGT GTCTGGAGCT

1861  GCGCAAAGGC CTGCTAATTG CGTGTCTGTG CCATGACCTG GACCACAGGG GCTTCAGTAA
      CGCGTTTCCG GACGATTAAC GCACAGACAC GGTACTGGAC CTGGTGTCCC CGAAGTCATT

1921  CAGCTACCTG CAGAAGTTCG ACCACCCCCT GGCGGCGCTG TACTCCACCT CCACCATGGA
      GTCGATGGAC GTCTTCAAGC TGGTGGGGGA CCGCCGCGAC ATGAGGTGGA GGTGGTACCT

1981  GCAACACCAC TTCTCCCAGA CGGTGTCCAT CCTTCAGCTG GAAGGGCACA ATATCTTCTC
      CGTTGTGGTG AAGAGGGTCT GCCACAGGTA GGAAGTCGAC CTTCCCGTGT TATAGAAGAG

2041  CACCCTGAGC TCCAGCGAGT ACGAGCAGGT GCTGGAGATC ATCCGCAAAG CCATCATCGC
      GTGGGACTCG AGGTCGCTCA TGCTCGTCCA CGACCTCTAG TAGGCGTTTC GGTAGTAGCG

2101  CACCGACCTC GCCCTATACT TTGGGAACAG GAAGCAGTTG GAGGAGATGT ACCAGACAGG
      GTGGCTGGAG CGGGATATGA AACCCTTGTC CTTCGTCAAC CTCCTCTACA TGGTCTGTCC

2161  GTCGCTGAAC CTCCACAACC AGTCCCATCG AGACCGTGTC ATCGGCTTGA TGATGACTGC
      CAGCGACTTG GAGGTGTTGG TCAGGGTAGC TCTGGCACAG TAGCCGAACT ACTACTGACG

2221  CTGTGATCTT TGCTCTGTGA CCAAACTATG GCCAGTTACA AAATTGACAG CGAATGATAT
      GACACTAGAA ACGAGACACT GGTTTGATAC CGGTCAATGT TTTAACTGTC GCTTACTATA

2281  ATATGCAGAA TTCTGGGCTG AGGGTGATGA GATGAAGAAG CTGGGCATAC AGCCCATTCC
      TATACGTCTT AAGACCCGAC TCCCACTACT CTACTTCTTC GACCCGTATG TCGGGTAAGG

2341  TATGATGGAC AGAGACAAGC GAGATGAAGT CCCTCAAGGG CAGCTCGGAT TCTACAATGC
      ATACTACCTG TCTCTGTTCG CTCTACTTCA GGGAGTTCCC GTCGAGCCTA AGATGTTACG

2401  TGTGGCCATT CCCTGCTATA CCACCTTGAC GCAGATCCTC CCACCCACAG AGCCTCTGCT
      ACACCGGTAA GGGACGATAT GGTGGAACTG CGTCTAGGAG GGTGGGTGTC TCGGAGACGA

2461  GAAGGCCTGC AGGGATAACC TCAATCAGTG GGAGAAGGTA ATTCGCGGGG AAGAGACAGC
      CTTCCGGACG TCCCTATTGG AGTTAGTCAC CCTCTTCCAT TAAGCGCCCC TTCTCTGTCG
```

```
2521  AATGTGGATT TCAGGCCCAG GCCCGGCGCC TAGCAAGAGC ACACCTGAGA AGCTGAACGT
      TTACACCTAA AGTCCGGGTC CGGGCCGCGG ATCGTTCTCG TGTGGACTCT TCGACTTGCA

2581  GAAGGTTGAA GACTGATCCT GAAGTGACGT CCTGATGTCT GCCCAGCAAC CGACTCAACC
      CTTCCAACTT CTGACTAGGA CTTCACTGCA GGACTACAGA CGGGTCGTTG GCTGAGTTGG

2641  TGCTTCTGTG ACTTCGTTCT TTTTGTTTTC AAGGGGTGAA AACCCCCTGT CAGAAGGTAC
      ACGAAGACAC TGAAGCAAGA AAAACAAAAG TTCCCCACTT TTGGGGGACA GTCTTCCATG

2701  CGTCGCATAT CCATGTGAAG CAGACGACTC CCTGCTTGCC GCACACACCT CGGACAGTGA
      GCAGCGTATA GGTACACTTC GTCTGCTGAG GGACGAACGG CGTGTGTGGA GCCTGTCACT

2761  GCAACCCAGG CTCTGCCGTG TTCAGACGTC GGCTACTCCG TGGCTCCACC TGACCTCCGA
      CGTTGGGTCC GAGACGGCAC AAGTCTGCAG CCGATGAGGC ACCGAGGTGG ACTGGAGGCT

2821  ATGCTATTTG CTCCCAGGCC AGCACTGCAC TGTCTGGAGG GGGCAGAGAC CACAGGAGAG
      TACGATAAAC GAGGGTCCGG TCGTGACGTG ACAGACCTCC CCCGTCTCTG GTGTCCTCTC

2881  GTTCTTGCCT GCATCCTCCC ATGAGGGTGT GGCCAGTTCC CTAGTTCTGT GCCATGCTGC
      CAAGAACGGA CGTAGGAGGG TACTCCCACA CCGGTCAAGG GATCAAGACA CGGTACGACG

2941  TGCTTGGTGG CATTGGTTAG GAATGGGACA CACGCCCCTT GTTGTGAAGT TTACATGTGA
      ACGAACCACC GTAACCAATC CTTACCCTGT GTGCGGGGAA CAACACTTCA AATGTACACT

3001  CCTTCTTATA GGTTAACTGA GTTTGTGGCC TGGACACATG TAATGAAGGT CACAGTCCAC
      GGAAGAATAT CCAATTGACT CAAACACCGG ACCTGTGTAC ATTACTTCCA GTGTCAGGTG

3061  AGGTGACAGA GAAATCCAAA CTGTTGATTA CAGGTGCACT ACAGGTATGC TCTTTCAGTC
      TCCACTGTCT CTTTAGGTTT GACAACTAAT GTCCACGTGA TGTCCATACG AGAAAGTCAG

3121  TATCTGGGGG CACATAGGTG AGTCTGCTCC ACTCAGAANN AAGCATACCT CTGCCCTCAT
      ATAGACCCCC GTGTATCCAC TCAGACGAGG TGAGTCTTNN TTCGTATGGA GACGGGAGTA

3181  CCAGGGGACA CAGGGTACAT CCCAGGCATC GGGGAACTGA AGCTCTCACT TCAAACCATG
      GGTCCCCTGT GTCCCATGTA GGGTCCGTAG CCCCTTGACT TCGAGAGTGA AGTTTGGTAC

3241  TCAAAGAATT AAAACACCTC CCCTCCCCCT CACTGTAGCC TTCGACAACT GCGCCAATCC
      AGTTTCTTAA TTTTGTGGAG GGGAGGGGGA GTGACATCGG AAGCTGTTGA CGCGGTTAGG

3301  CTTTATACAA AGAAAATAAA AGTAAGGCAT ATAAATTTCC TCCAGCAAGC AAATCTTGTG
      GAAATATGTT TCTTTTATTT TCATTCCGTA TATTTAAAGG AGGTCGTTCG TTTAGAACAC

3361  GGTAAAAAAA AAGCATGTGA ATNNTAACAA CNTCTANANT NTCNCNGNAT GTTATGGCAG
      CCATTTTTTT TTCGTACACT TANNATTGTT GNAGATNTNA NAGNGNCNTA CAATACCGTC

3421  AATTTTAGTC ACGTCCAAAA CAAAAAGATT ATTCCAGAAG ATACCTCATC CTATGCCTGA
      TTAAAATCAG TGCAGGTTTT GTTTTTCTAA TAAGGTCTTC TATGGAGTAG GATACGGACT

3481  AAGGCTCCAC AGCATGGCGT CCGTCTCCCA GGGTTCTGAT CCGTCTCCTC ACGGTGCAAT
      TTCCGAGGTG TCGTACCGCA GGCAGAGGGT CCCAAGACTA GGCAGAGGAG TGCCACGTTA

3541  CAGGCAGGAC AGAGAGGAGG GCTGCAGGGC TACCACATTG ACCCAGAAGG TATCTCCTCT
      GTCCGTCCTG TCTCTCCTCC CGACGTCCCG ATGGTGTAAC TGGGTCTTCC ATAGAGGAGA

3601  CACCATTCAG ACATCCATAA GGAATGCCAA ATGCTGTATT GAATAGTTCT CTGTGTGACT
      GTGGTAAGTC TGTAGGTATT CCTTACGGTT TACGACATAA CTTATCAAGA GACACACTGA

3661  TTCTAGAGAA GCCAGGACAC CCTGAGCCTT TCCNGGGGAA CTCTAAGGAG TCACAGGTTC
      AAGATCTCTT CGGTCCTGTG GGACTCGGAA AGGNCCCCTT GAGATTCCTC AGTGTCCAAG

3721  ACACCGTGGG GATTTTCAGG ATAGCATGGA GACAGAGATC CGGTCGTTGT TCTCACTCGT
      TGTGGCACCC CTAAAAGTCC TATCGTACCT CTGTCTCTAG GCCAGCAACA AGAGTGAGCA
```

Figure 15 (cont.)

```
3781  GAGCCTTGAG AAGGAGAGAC TGACCAGAAA CACTCACTCA GCACTCTGCA GGAGCAGGAG
      CTCGGAACTC TTCCTCTCTG ACTGGTCTTT GTGAGTGAGT CGTGAGACGT CCTCGTCCTC

3841  AAGATACTTT AAGATGAATC TTGGATAGAT TTTGATACAC CCAATACCAT ACACACAGGA
      TTCTATGAAA TTCTACTTAG AACCTATCTA AAACTATGTG GGTTATGGTA TGTGTGTCCT

3901  GCTTGGCATT TGCAAAGTCT ATTCAGTTTC CTTCCGCGCT CTGACCCACG GTTGTAGCGG
      CGAACCGTAA ACGTTTCAGA TAAGTCAAAG GAAGGCGCGA GACTGGGTGC CAACATCGCC

3961  AGTGGGCTGA ACACTGTAAC ACTGTACATG CGATTTCCCC ATGGGCTTCT AAAATGTCAC
      TCACCCGACT TGTGACATTG TGACATGTAC GCTAAAGGGG TACCCGAAGA TTTTACAGTG

4021  CATCTCCTCC CCTGCTGTGT CCTACTCCAT TTACTGGTTA CAAGGTGATG TCAACAAGAG
      GTAGAGGAGG GGACGACACA GGATGAGGTA AATGACCAAT GTTCCACTAC AGTTGTTCTC

4081  AAGCTATCAC AACACCAGGG CTGTGCACAC GTGCACACAC ATGTATGCAC AAGCACACAG
      TTCGATAGTG TTGTGGTCCC GACACGTGTG CACGTGTGTG TACATACGTG TTCGTGTGTC

4141  ATGTATGTAC AGCACACACA CACACACACA CCCCAAAAGG AGAGAAAAGG AAGAAAACAT
      TACATACATG TCGTGTGTGT GTGTGTGTGT GGGGTTTTCC TCTCTTTTCC TTCTTTTGTA

4201  TTATAAAAAG CGACAGCTAC CCCATATCAA AATAGTCTTT CCTGTAGGAA ACAGGAGCTC
      AATATTTTTC GCTGTCGATG GGGTATAGTT TTATCAGAAA GGACATCCTT TGTCCTCGAG

4261  TCCATAAGGA ATTATCATGA GTGTGTTCTC CCATCAGTGC ACTCTCCCAG GGGTGCTCAC
      AGGTATTCCT TAATAGTACT CACACAAGAG GGTAGTCACG TGAGAGGGTC CCCACGAGTG

4321  TGAAGCTGGT CCACRTCTAT AAACAGGTGA CACTGGCTGC AGCAAAAAGC CATTCGATCC
      ACTTCGACCA GGTGYAGATA TTTGTCCACT GTGACCGACG TCGTTTTTCG GTAAGCTAGG

4381  ACACAAATTG ATCTTCTATC ATCTTGGAAT CTGAATTGCA GGGAGGAGCA GYATGTAAGA
      TGTGTTTAAC TAGAAGATAG TAGAACCTTA GACTTAACGT CCCTCCTCGT CRTACATTCT

4441  CGACCGTTTA ATTCAGGCAT TCCGAAGGCA TGAGCGCATG GATTCTRTCA CCAAGCGTAT
      GCTGGCAAAT TAAGTCCGTA AGGCTTCCGT ACTCGCGTAC CTAAGAYAGT GGTTCGCATA

4501  AAAAGGACCC TGGCATTGGG AAACCTATGA CGGACTGTTT TTGCTGTAGA AGTAGGGATT
      TTTTCCTGGG ACCGTAACCC TTTGGATACT GCCTGACAAA AACGACATCT TCATCCCTAA

4561  TTACAGAAGT CTCCTTGRAT TTGCCCTGCC TGGGGCAGTT TTGCAGAGGA ACCTGCCAGA
      AATGTCTTCA GAGGAACYTA AACGGGACGG ACCCCGTCAA AACGTCTCCT TGGACGGTCT

4621  GATTTATTGG CTGGTCAGTC TCTTGTGAAA TAGTATCATG TGAGAAACAG TTTGTAGAAA
      CTAAATAACC GACCAGTCAG AGAACACTTT ATCATAGTAC ACTCTTTGTC AAACATCTTT

4681  AAAACTATAC CTGGGAAGAC CTTTGCAACA TTGTTCCTTC CATGGGCCAA GACTCAGTTA
      TTTTGATATG GACCCTTCTG GAAACGTTGT AACAAGGAAG GTACCCGGTT CTGAGTCAAT

4741  GGAGGCATAA ATCTGCCCGG AATAAACTAG GCCAGGATAC AGCCATGTTT AGTTAATAAT
      CCTCCGTATT TAGACGGGCC TTATTTGATC CGGTCCTATG TCGGTACAAA TCAATTATTA

4801  TTGGTTTTAG AATTCACACA GGCAGGATTG GTTTTTTTGT GTCTTGGCAA GTGGAGCATA
      AACCAAAATC TTAAGTGTGT CCGTCCTAAC CAAAAAAACA CAGAACCGTT CACCTCGTAT

4861  TTTAACATAC AGGCATGGGA ATCCTGCCTC TTAGCTTTTC CCACCCTCTT GTCTCACCAA
      AAATTGTATG TCCGTACCCT TAGGACGGAG AATCGAAAAG GGTGGGAGAA CAGAGTGGTT

4921  GTTTTTTCTC TCCAAAGGTT TCCAGGAATT TCTCATTAAT GGCTGATGCA AACTTAGTGA
      CAAAAAAGAG AGGTTTCCAA AGGTCCTTAA AGAGTAATTA CCGACTACGT TTGAATCACT

4981  ATAATAATGA ATATAAACAA TGCTCACCTC ACCAAAATTA TATTATTTGC AGTCATTTGT
      TATTATTACT TATATTTGTT ACGAGTGGAG TGGTTTTAAT ATAATAAACG TCAGTAAACA
```

Figure 15 (cont.)

```
5041  GATAACACAA ATTTTATCGC AATGGTTATT ATTTAATTTG TGGCCACACA CTGTGGTTAT
      CTATTGTGTT TAAAATAGCG TTACCAATAA TAAATTAAAC ACCGGTGTGT GACACCAATA

5101  CTTTTGTTGT GGTTGTTTCT GAGAAAATGT TCTTGGATAT GTAAGTGCCA ATACCAGTGT
      GAAAACAACA CCAACAAAGA CTCTTTTACA AGAACCTATA CATTCACGGT TATGGTCACA

5161  GAAGTATTGA TCCCGGGCAG CAAAATACAG CCTAAGGTTT GTAAACATCA ATTCTATCTC
      CTTCATAACT AGGGCCCGTC GTTTTATGTC GGATTCCAAA CATTTGTAGT TAAGATAGAG

5221  AGTTCATCAG AGGGCCTGAG AAGCTGCGGG GCAGTGTAAA GTAAAGTATG CTGGGCTGGT
      TCAAGTAGTC TCCCGGACTC TTCGACGCCC CGTCACATTT CATTTCATAC GACCCGACCA

5281  GGTGGTCAGC CTCCCCTTGC CAAGAAGAGA GCAATTGAAT CCTGTCCCCA GCTCCCTCCA
      CCACCAGTCG GAGGGGAACG GTTCTTCTCT CGTTAACTTA GGACAGGGGT CGAGGGAGGT

5341  CGCCTGAAGA GTGACCAGTG CTGGCCCGAC GGATCGCTGA GATATTCTCC CATAATGGCA
      GCGGACTTCT CACTGGTCAC GACCGGGCTG CCTAGCGACT CTATAAGAGG GTATTACCGT

5401  AAAAAATAGG CAGTTTGATG TGACCTGTTT AGTGTGGCTC TCCTCTTTTG AGCATGTGTT
      TTTTTTATCC GTCAAACTAC ACTGGACAAA TCACACCGAG AGGAGAAAAC TCGTACACAA

5461  AGCATTTTTA TTTTATACTC ATCCAGTGAA CTCTGCTCTT CCAAGTGTGT TCATGTATGT
      TCGTAAAAAT AAAATATGAG TAGGTCACTT GAGACGAGAA GGTTCACACA AGTACATACA

5521  GCTAGATATA TTAGCACAGC CTGCCTTCTG CTGCACAACG CCTTAGAGAC CCGGCCTTTC
      CGATCTATAT AATCGTGTCG GACGGAAGAC GACGTGTTGC GGAATCTCTG GGCCGGAAAG

5581  AATGAGCTTA GCTTGTGCTC TGTTTCTGCT CTCTTAGGTC TAAACTATGG TGTCAGTTTT
      TTACTCGAAT CGAACACGAG ACAAAGACGA GAGAATCCAG ATTTGATACC ACAGTCAAAA

5641  AATAGAACAA AAGTATGCAT CTTGCCTTGG CTTGAGCCTT TTCGTTTTCA ATGCTGACTT
      TTATCTTGTT TTCATACGTA GAACGGAACC GAACTCGGAA AAGCAAAAGT TACGACTGAA

5701  CTCCCCTTTC TCTCCTGTGC TCACCTTACC TTTCCAGAGT GTAAGGGACA ACTTTTAAGG
      GAGGGGAAAG AGAGGACACG AGTGGAATGG AAAGGTCTCA CATTCCCTGT TGAAAATTCC

5761  AGGCGTGTCC CTGGTAGGGG CATCCCTGTT CACCAGGTGC CTGTCATCAC CCCACTTGAC
      TCCGCACAGG GACCATCCCC GTAGGGACAA GTGGTCCACG GACAGTAGTG GGGTGAACTG

5821  TGACATCTAC CCTGGTGACT ATGGGTTCCT CTTGTTTGTA GGGAACGGTG GCTCCAGGTG
      ACTGTAGATG GGACCACTGA TACCCAAGGA GAACAAACAT CCCTTGCCAC CGAGGTCCAC

5881  GAGGCATCAA TCTGTTGGGT TCTGGTTCCC GGCTGCCTTT GGTTTTGAAA GTCTCTTCTC
      CTCCGTAGTT AGACAACCCA AGACCAAGGG CCGACGGAAA CCAAAACTTT CAGAGAAGAG

5941  TGTATATTCC TACCCTGCAT TTGCTTTGTG TGGTGCTGAT GCTGTGGCAG TAGGATCTTG
      ACATATAAGG ATGGGACGTA AACGAAACAC ACCACGACTA CGACACCGTC ATCCTAGAAC

6001  GATGACTCTC CATCAGTCAC AGACTCCCCC TGTTGCAAAG TGTCAGGCTG ACTCGACAGT
      CTACTGAGAG GTAGTCAGTG TCTGAGGGGG ACAACGTTTC ACAGTCCGAC TGAGCTGTCA

6061  CACCGTAAAA TCTGAGTCAG TCACACACAG GCTGTCAGCC ACGGCTTCCA CTTGCATGGC
      GTGGCATTTT AGACTCAGTC AGTGTGTGTC CGACAGTCGG TGCCGAAGGT GAACGTACCG

6121  TATTCTATTT TCACACGTGA GTTTCTGTTG CTGGCTGGCT GACTGGCATT ATCTATGCTA
      ATAAGATAAA AGTGTGCACT CAAAGACAAC GACCGACCGA CTGACCGTAA TAGATACGAT

6181  AGTTGAAATC AGGAGTGTGC CCAGCAGAGC CCATCATTCT CACTGTCTTT GAAACAAAGC
      TCAACTTTAG TCCTCACACG GGTCGTCTCG GGTAGTAAGA GTGACAGAAA CTTTGTTTCG

6241  TGTACGGTTT GATCGATGAA CGTATTTAAA GCATTTCATG CAATGACAAA GTGCTCAGTA
      ACATGCCAAA CTAGCTACTT GCATAAATTT CGTAAAGTAC GTTACTGTTT CACGAGTCAT
```

Figure 15 (cont.)

6301	GTGGAAGGCA	GGCTGTGACC	AGTCTGCCTG	CTCCTTACTA	TAATTGTGAG	GATTTGTTAC
	CACCTTCCGT	CCGACACTGG	TCAGACGGAC	GAGGAATGAT	ATTAACACTC	CTAAACAATG
6361	TGGAACAGTA	CATGGAGGCC	TGACCTTGTG	GGGGCACAGG	GTGGAACCTT	AGCTGAATAT
	ACCTTGTCAT	GTACCTCCGG	ACTGGAACAC	CCCCGTGTCC	CACCTTGGAA	TCGACTTATA
6421	AGTGTGTGTC	TCAAGAGGAA	GTCAGGGTAC	TAGCTCAGTG	CTCAATCTCC	AGGTACTATA
	TCACACACAG	AGTTCTCCTT	CAGTCCCATG	ATCGAGTCAC	GAGTTAGAGG	TCCATGATAT
6481	TATACATTTG	CCCGTTTTAT	CTCTAATGTG	AAATAAATCC	CCAAACACTT	GTTTATCGTG
	ATATGTAAAC	GGGCAAAATA	GAGATTACAC	TTTATTTAGG	GGTTTGTGAA	CAAATAGCAC
6541	TAGCGTACCT	AAAAGACTAT	TCTATTATGG	GTGTCCCCAC	TTTCTTGGTT	TGGTCACCCC
	ATCGCATGGA	TTTTCTGATA	AGATAATACC	CACAGGGGTG	AAAGAACCAA	ACCAGTGGGG
6601	GATCCCCCGG	TCTTCTGCTG	TATCTAGAAC	AGTGACTATA	AATGATGTAT	GGGAATAGTG
	CTAGGGGGCC	AGAAGACGAC	ATAGATCTTG	TCACTGATAT	TTACTACATA	CCCTTATCAC
6661	TTTCCATATG	ATCTGTTGTC	TGGAGTATAT	GCTACATGTT	CATTTACTGT	ACAAAAACCC
	AAAGGTATAC	TAGACAACAG	ACCTCATATA	CGATGTACAA	GTAAATGACA	TGTTTTTGGG
6721	AGTGCAGCTG	ATGATGCAAA	GCAGTCTCTC	TCTGTGTACA	GTGCCCCACC	TATTTAAAAA
	TCACGTCGAC	TACTACGTTT	CGTCAGAGAG	AGACACATGT	CACGGGGTGG	ATAAATTTTT
6781	TCACGTACAA	NCCCAGAACA	CTGTGAAACA	CTTAACATAA	GAAACAAACG	CAGCGTCTGG
	AGTGCATGTT	NGGGTCTTGT	GACACTTTGT	GAATTGTATT	CTTTGTTTGC	GTCGCAGACC
6841	ATTCTTTCCA	AGGAGAGCAG	CTTTCTCCAC	AGGAACACAG	TAACAAAAGA	GGTCCGCCGC
	TAAGAAAGGT	TCCTCTCGTC	GAAAGAGGTG	TCCTTGTGTC	ATTGTTTTCT	CCAGGCGGCG
6901	CATCCACACC	CAGCCAAGAC	ACCTCAGAGG	CCATAGGGAC	AACCTCCTTG	CTGGCCAACA
	GTAGGTGTGG	GTCGGTTCTG	TGGAGTCTCC	GGTATCCCTG	TTGGAGGAAC	GACCGGTTGT
6961	CCTGCTGGAG	CAGGGCACAG	GTCCCAGCAA	CTGATCCTCA	GTGGATGGGT	CCGCAGTCAA
	GGACGACCTC	GTCCCGTGTC	CAGGGTCGTT	GACTAGGAGT	CACCTACCCA	GGCGTCAGTT
7021	AGCCTTAATG	GGCTCTCTTT	TGAAGGGGAA	AGAAANNTTT	CAAGCTTATG	ATATCCAACA
	TCGGAATTAC	CCGAGAGAAA	ACTTCCCCTT	TCTTTNNAAA	GTTCGAATAC	TATAGGTTGT
7081	TTATTATAGT	TGATGAGTTA	GTAAATTCCG	AAAAAAAAAG	ATGATTTTAT	ATGTATGACA
	AATAATATCA	ACTACTCAAT	CATTTAAGGC	TTTTTTTTTC	TACTAAAATA	TACATACTGT
7141	TAAAAAAAAT	CTTTGTAAAG	TGCGCAAGTG	CAATAATTTA	AAGAGGTCTT	ATCTTTGCAT
	ATTTTTTTTA	GAAACATTTC	ACGCGTTCAC	GTTATTAAAT	TTCTCCAGAA	TAGAAACGTA
7201	TTATAAATTA	TAAATATTGT	ACATGTGTGT	AATTTTTCAT	GTATTCATTT	GCAGTCTTTG
	AATATTTAAT	ATTTATAACA	TGTACACACA	TTAAAAAGTA	CATAAGTAAA	CGTCAGAAAC
7261	TATTTAAAAA	AACTTTACTG	TTATGTTTGT	ATAATAGAAC	ATTAATCATT	TATTATAACT
	ATAAATTTTT	TTGAAATGAC	AATACAAACA	TATTATCTTG	TAATTAGTAA	ATAATATTGA
7321	CAGACAAGGT	GTAAATAAAT	TCATAATTCA	AACAGCCAGT	ATATATGCAT	ATATGGGTGT
	GTCTGTTCCA	CATTTATTTA	AGTATTAAGT	TTGTCGGTCA	TATATACGTA	TATACCCACA
7381	TACATTGCAA	AAATCTCTAT	CTTTGTTCTA	TTCACATGCT	TAAAGAAGTA	AGAAATCTTT
	ATGTAACGTT	TTTAGAGATA	GAAACAAGAT	AAGTGTACGA	ATTTCTTCAT	TCTTTAGAAA
7441	TGTGGATATG	TAATTATACA	TATAAAGTAT	ATATATATGT	ATGATACATG	AAATATATTT
	ACACCTATAC	ATTAATATGT	ATATTTCATA	TATATATACA	TACTATGTAC	TTTATATAAA
7501	AGAAATGTTC	ATAATTTTAA	TGGATATTCT	TTGGTGTGAA	TAATTGAATA	CAACATTTTT
	TCTTTACAAG	TATTAAAATT	ACCTATAAGA	AACCACACTT	ATTAACTTAT	GTTGTAAAAA

Figure 15 (cont.)


```
7561  AAAATGAAAA AAAAAAAAAA C
      TTTTACTTTT TTTTTTTTTT G
```

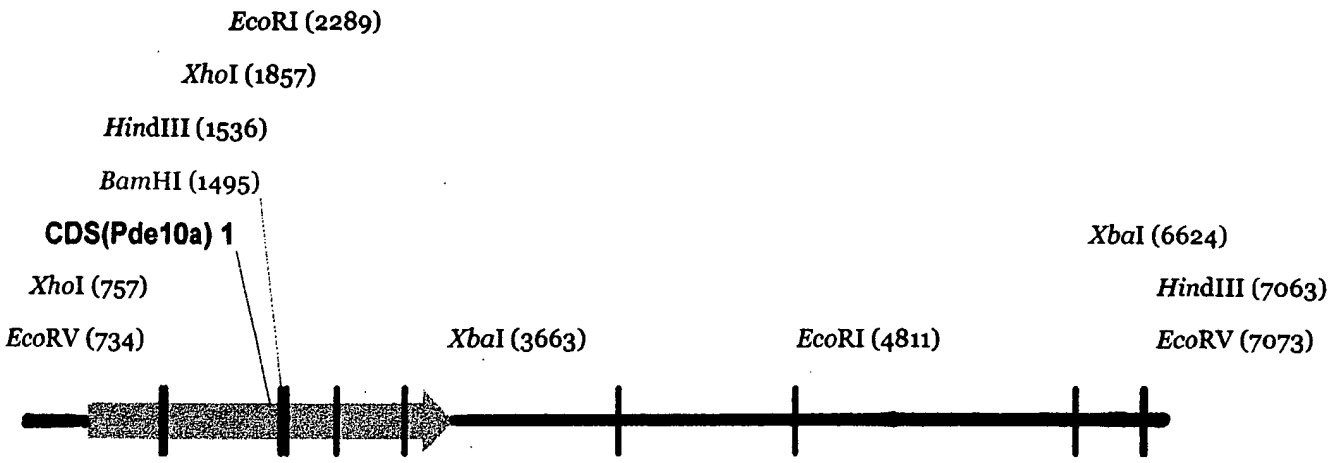


Figure 16

7581 bp

Figure 17

PDE10A compiled - coding sequence and features

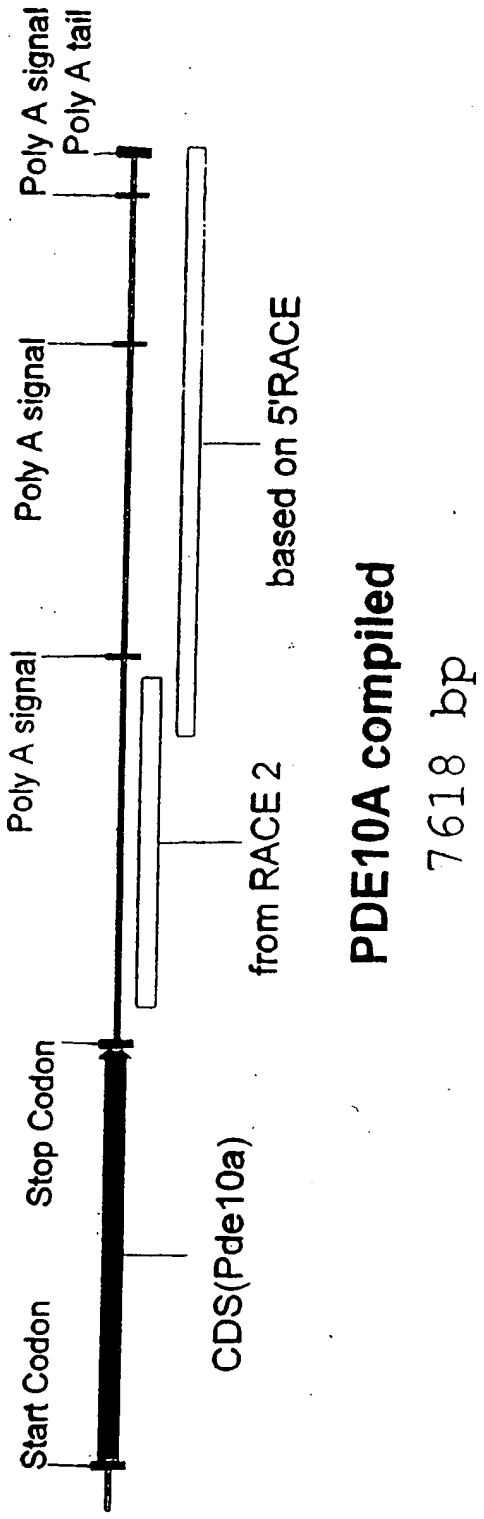


Figure 18

PDE10A compiled - restriction sites

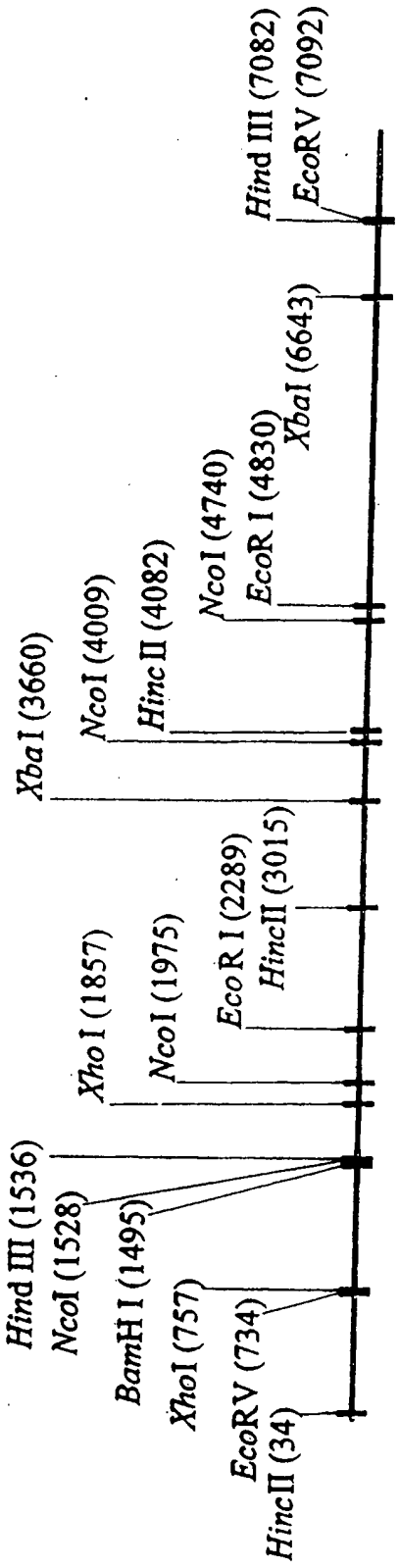


Figure 19

```
1     CGCCCGGGCA GGTCTGTTGG AGGGCAGTTG GTCAACCTGA CCAGAGAGAG CTGAGCTGGA
      GCGGGCCCGT CCAGACAACC TCCCGTCAAC CAGTTGGACT GGTCTCTCTC GACTCGACCT

61    AGACCCCACT GATGGTGTGC TGCCTTTCAG TCCAGGAAGA AAGAAAGGAA GGATTCTGAG
      TCTGGGGTGA CTACCACACG ACGGAAAGTC AGGTCCTTCT TTCTTTCCTT CCTAAGACTC

121   GATTTGGGCA AAGCCACATT CCTGGAGAAG TCTGTATACT GATGCCAAAC CCAAGAGCTG
      CTAAACCCGT TTCGGTGTAA GGACCTCTTC AGACATATGA CTACGGTTTG GGTTCTCGAC

181   AGCTGCTGAT GAGGCCCAGG GAGTAGCCCA CGCGCCCTGA GCTGTTGGCT AGCAAGGCCT
      TCGACGACTA CTCCGGGTCC CTCATCGGGT GCGCGGGACT CGACAACCGA TCGTTCCGGA

241   TCCTGCTCCA TGTGGCATGG AAAAATTATA TGGTTTGACG GATGAAAAGG TGAAGGCCTA
      AGGACGAGGT ACACCGTACC TTTTTAATAT ACCAAACTGC CTACTTTTCC ACTTCCGGAT

301   TCTTTCTCTC CATCCCCAGG TATTAGATGA ATTTGTTTCT GAAAGTGTTA GTGCAGAGAC
      AGAAAGAGAG GTAGGGGTCC ATAATCTACT TAAACAAAGA CTTTCACAAT CACGTCTCTG

361   TGTGGAAAAG TGGCTGAAGA GGAAAACCAA CAAAGCAAAA GATGAACCAT CTCCCAAGGA
      ACACCTTTTC ACCGACTTCT CCTTTTGGTT GTTTCGTTTT CTACTTGGTA GAGGGTTCCT

421   AGTCAGCAGG TACCAGGATA CGAATATGCA GGGAGTCGTG TACGAGCTGA ACAGCTACAT
      TCAGTCGTCC ATGGTCCTAT GCTTATACGT CCCTCAGCAC ATGCTCGACT TGTCGATGTA

481   AGAGCAGCGC CTGGACACGG GCGGGGACAA CCACCTGCTC CTCTATGAGC TCAGCAGCAT
      TCTCGTCGCG GACCTGTGCC CGCCCCTGTT GGTGGACGAG GAGATACTCG AGTCGTCGTA

541   CATCAGGATA GCCACAAAAG CCGACGGATT TGCACTGTAC TTCCTTGGAG AGTGCAATAA
      GTAGTCCTAT CGGTGTTTTC GGCTGCCTAA ACGTGACATG AAGGAACCTC TCACGTTATT

601   TAGCCTGTGT GTGTTCATAC CACCCGGGAT GAAGGAAGGC CAACCCCGGC TCATCCCTGC
      ATCGGACACA CACAAGTATG GTGGGCCCTA CTTCCTTCCG GTTGGGGCCG AGTAGGGACG

661   AGGGCCCATC ACCCAGGGTA CCACCATCTC TGCCTACGTG GCCAAGTCTA GGAAGACGTT
      TCCCGGGTAG TGGGTCCCAT GGTGGTAGAG ACGGATGCAC CGGTTCAGAT CCTTCTGCAA

721   GTTGGTAGAG GATATCCTTG GGGATGAGCG ATTTCCTCGA GGTACTGGCC TGGAATCAGG
      CAACCATCTC CTATAGGAAC CCCTACTCGC TAAAGGAGCT CCATGACCGG ACCTTAGTCC

781   AACCCGCATC CAGTCTGTTC TTTGCTTGCC CATTGTCACT GCCATTGGAG ACTTGATTGG
      TTGGGCGTAG GTCAGACAAG AAACGAACGG GTAACAGTGA CGGTAACCTC TGAACTAACC

841   CATCCTTGAA CTGTACAGGC ACTGGGGCAA AGAGGCCTTC TGCCTCAGCC ATCAGGAGGT
      GTAGGAACTT GACATGTCCG TGACCCCGTT TCTCCGGAAG ACGGAGTCGG TAGTCCTCCA

901   TGCAACAGCC AATCTTGCTT GGGCTTCCGT AGCAATACAC CAGGTGCAGG TGTGTAGAGG
      ACGTTGTCGG TTAGAACGAA CCCGAAGGCA TCGTTATGTG GTCCACGTCC ACACATCTCC

961   TCTCGCCAAA CAGACCGAAC TGAATGACTT CCTACTCGAC GTATCAAAGA CATACTTTGA
      AGAGCGGTTT GTCTGGCTTG ACTTACTGAA GGATGAGCTG CATAGTTTCT GTATGAAACT

1021  TAACATAGTT GCCATAGACT CTCTACTTGA ACACATCATG ATATATGCAA AAAATCTAGT
      ATTGTATCAA CGGTATCTGA GAGATGAACT TGTGTAGTAC TATATACGTT TTTTAGATCA

1081  GAACGCCGAC CGCTGCGCGC TCTTCCAGGT GGACCACAAG AACAAGGAGC TGTACTCGGA
      CTTGCGGCTG GCGACGCGCG AGAAGGTCCA CCTGGTGTTC TTGTTCCTCG ACATGAGCCT

1141  CCTGTTTGAC ATTGGGGAGG AGAAGGAGGG GAAGCCCATC TTCAAGAAGA CCAAGGAGAT
      GGACAAACTG TAACCCCTCC TCTTCCTCCC CTTCGGGTAG AAGTTCTTCT GGTTCCTCTA

1201  CAGATTTTCC ATTGAGAAAG GGATTGCTGG TCAAGTGGCA AGAACAGGCG AAGTCTTGAA
      GTCTAAAAGG TAACTCTTTC CCTAACGACC AGTTCACCGT TCTTGTCCGC TTCAGAACTT
```

Figure 19 (cont.)

```
1261  CATTCCCGAT GCCTACGCGG ACCCTCGCTT TAACAGGGAG GTGGACCTGT ACACAGGCTA
      GTAAGGGCTA CGGATGCGCC TGGGAGCGAA ATTGTCCCTC CACCTGGACA TGTGTCCGAT

1321  CACCACGAGG AACATTCTGT GTATGCCCAT AGTGAGCCGA GGCAGCGTGA TTGGCGTGGT
      GTGGTGCTCC TTGTAAGACA CATACGGGTA TCACTCGGCT CCGTCGCACT AACCGCACCA

1381  GCAGATGGTG AACAAGATCA GCGGTAGCGC CTTCTCCAAG ACAGACGAGA ACAACTTCAA
      CGTCTACCAC TTGTTCTAGT CGCCATCGCG GAAGAGGTTC TGTCTGCTCT TGTTGAAGTT

1441  GATGTTTGCT GTCTTCTGCG CACTGGCCTT GCACTGTGCT AACATGTACC ACAGGATCCG
      CTACAAACGA CAGAAGACGC GTGACCGGAA CGTGACACGA TTGTACATGG TGTCCTAGGC

1501  CCACTCAGAA TGCATCTACA GGGTTACCAT GGAGAAGCTT TCCTACCACA GCATCTGCAC
      GGTGAGTCTT ACGTAGATGT CCCAATGGTA CCTCTTCGAA AGGATGGTGT CGTAGACGTG

1561  CTCCGAGGAG TGGCAAGGCC TCATGCGCTT CAACCTACCA GCACGCATCT GCCGGGACAT
      GAGGCTCCTC ACCGTTCCGG AGTACGCGAA GTTGGATGGT CGTGCGTAGA CGGCCCTGTA

1621  CGAGCTATTC CACTTTGACA TTGGTCCTTT CGAGAACATG TGGCCTGGGA TCTTTGTCTA
      GCTCGATAAG GTGAAACTGT AACCAGGAAA GCTCTTGTAC ACCGGACCCT AGAAACAGAT

1681  CATGATCCAT CGGTCTTGTG GGACATCCTG TTTTGAACTT GAAAAATTGT GCCGTTTTAT
      GTACTAGGTA GCCAGAACAC CCTGTAGGAC AAAACTTGAA CTTTTTAACA CGGCAAAATA

1741  CATGTCTGTG AAGAAGAACT ATCGGCGGGT TCCTTACCAC AACTGGAAGC ATGCAGTCAC
      GTACAGACAC TTCTTCTTGA TAGCCGCCCA AGGAATGGTG TTGACCTTCG TACGTCAGTG

1801  GGTGGCACAC TGCATGTATG CCATACTTCA AAACAACAAT GGCCTCTTCA CAGACCTCGA
      CCACCGTGTG ACGTACATAC GGTATGAAGT TTTGTTGTTA CCGGAGAAGT GTCTGGAGCT

1861  GCGCAAAGGC CTGCTAATTG CGTGTCTGTG CCATGACCTG GACCACAGGG GCTTCAGTAA
      CGCGTTTCCG GACGATTAAC GCACAGACAC GGTACTGGAC CTGGTGTCCC CGAAGTCATT

1921  CAGCTACCTG CAGAAGTTCG ACCACCCCCT GGCGGCGCTG TACTCCACCT CCACCATGGA
      GTCGATGGAC GTCTTCAAGC TGGTGGGGGA CCGCCGCGAC ATGAGGTGGA GGTGGTACCT

1981  GCAACACCAC TTCTCCCAGA CGGTGTCCAT CCTTCAGCTG GAAGGGCACA ATATCTTCTC
      CGTTGTGGTG AAGAGGGTCT GCCACAGGTA GGAAGTCGAC CTTCCCGTGT TATAGAAGAG

2041  CACCCTGAGC TCCAGCGAGT ACGAGCAGGT GCTGGAGATC ATCCGCAAAG CCATCATCGC
      GTGGGACTCG AGGTCGCTCA TGCTCGTCCA CGACCTCTAG TAGGCGTTTC GGTAGTAGCG

2101  CACCGACCTC GCCCTATACT TTGGGAACAG GAAGCAGTTG GAGGAGATGT ACCAGACAGG
      GTGGCTGGAG CGGGATATGA AACCCTTGTC CTTCGTCAAC CTCCTCTACA TGGTCTGTCC

2161  GTCGCTGAAC CTCCACAACC AGTCCCATCG AGACCGTGTC ATCGGCTTGA TGATGACTGC
      CAGCGACTTG GAGGTGTTGG TCAGGGTAGC TCTGGCACAG TAGCCGAACT ACTACTGACG

2221  CTGTGATCTT TGCTCTGTGA CCAAACTATG GCCAGTTACA AAATTGACAG CGAATGATAT
      GACACTAGAA ACGAGACACT GGTTTGATAC CGGTCAATGT TTTAACTGTC GCTTACTATA

2281  ATATGCAGAA TTCTGGGCTG AGGGTGATGA GATGAAGAAG CTGGGCATAC AGCCCATTCC
      TATACGTCTT AAGACCCGAC TCCCACTACT CTACTTCTTC GACCCGTATG TCGGGTAAGG

2341  TATGATGGAC AGAGACAAGC GAGATGAAGT CCCTCAAGGG CAGCTCGGAT TCTACAATGC
      ATACTACCTG TCTCTGTTCG CTCTACTTCA GGGAGTTCCC GTCGAGCCTA AGATGTTACG

2401  TGTGGCCATT CCCTGCTATA CCACCTTGAC GCAGATCCTC CCACCCACAG AGCCTCTGCT
      ACACCGGTAA GGGACGATAT GGTGGAACTG CGTCTAGGAG GGTGGGTGTC TCGGAGACGA

2461  GAAGGCCTGC AGGGATAACC TCAATCAGTG GGAGAAGGTA ATTCGCGGGG AAGAGACAGC
      CTTCCGGACG TCCCTATTGG AGTTAGTCAC CCTCTTCCAT TAAGCGCCCC TTCTCTGTCG
```

```
2521  AATGTGGATT TCAGGCCCAG GCCCGGCGCC TAGCAAGAGC ACACCTGAGA AGCTGAACGT
      TTACACCTAA AGTCCGGGTC CGGGCCGCGG ATCGTTCTCG TGTGGACTCT TCGACTTGCA

2581  GAAGGTTGAA GACTGATCCT GAAGTGACGT CCTGATGTCT GCCCAGCAAC CGACTCAACC
      CTTCCAACTT CTGACTAGGA CTTCACTGCA GGACTACAGA CGGGTCGTTG GCTGAGTTGG

2641  TGCTTCTGTG ACTTCGTTCT TTTTGTTTTC AAGGGGTGAA AACCCCCTGT CAGAAGGTAC
      ACGAAGACAC TGAAGCAAGA AAAACAAAAG TTCCCCACTT TTGGGGGACA GTCTTCCATG

2701  CGTCGCATAT CCATGTGAAG CAGACGACTC CCTGCTTGCC GCACACACCT CGGACAGTGA
      GCAGCGTATA GGTACACTTC GTCTGCTGAG GGACGAACGG CGTGTGTGGA GCCTGTCACT

2761  GCAACCCAGG CTCTGCCGTG TTCAGACGTC GGCTACTCCG TGGCTCCACC TGACCTCCGA
      CGTTGGGTCC GAGACGGCAC AAGTCTGCAG CCGATGAGGC ACCGAGGTGG ACTGGAGGCT

2821  ATGCTATTTG CTCCCAGGCC AGCACTGCAC TGTCTGGAGG GGGCAGAGAC CACAGGAGAG
      TACGATAAAC GAGGGTCCGG TCGTGACGTG ACAGACCTCC CCCGTCTCTG GTGTCCTCTC

2881  GTTCTTGCCT GCATCCTCCC ATGAGGGTGT GGCCAGTTCC CTAGTTCTGT GCCATGCTGC
      CAAGAACGGA CGTAGGAGGG TACTCCCACA CCGGTCAAGG GATCAAGACA CGGTACGACG

2941  TGCTTGGTGG CATTGGTTAG GAATGGGACA CACGCCCCTT GTTGTGAAGT TTACATGTGA
      ACGAACCACC GTAACCAATC CTTACCCTGT GTGCGGGGAA CAACACTTCA AATGTACACT

3001  CCTTCTTATA GGTTAACTGA GTTTGTGGCC TGGGACACAT GTAATGAAGG TCACAGTCCA
      GGAAGAATAT CCAATTGACT CAAACACCGG ACCCTGTGTA CATTACTTCC AGTGTCAGGT

3061  CAGGTGACAG AGAAATCCAA ACTGTTGATT ACAGGTGCAC TACAGGTATG CTCTTTCAGT
      GTCCACTGTC TCTTTAGGTT TGACAACTAA TGTCCACGTG ATGTCCATAC GAGAAAGTCA

3121  CTATCTGGGG GCACATAGGT GAGTCTGCTC CACTCAGAAG GAAGCATACC TCTSCCCTCA
      GATAGACCCC CGTGTATCCA CTCAGACGAG GTGAGTCTTC CTTCGTATGG AGASGGGAGT

3181  TCCAGGGGAC ACAGGGTACA TCCCAGGCAT CGGGGAACTG AAGCTCTCAC TTCAAACCAT
      AGGTCCCCTG TGTCCCATGT AGGGTCCGTA GCCCCTTGAC TTCGAGAGTG AAGTTTGGTA

3241  GTCAAAGAAT TAAAACACCT CCCCTCCCCC TCACTGTAGC CTTCGGCAAC TGCGCCAATC
      CAGTTTCTTA ATTTTGTGGA GGGGAGGGGG AGTGACATCG GAAGCCGTTG ACGCGGTTAG

3301  CCTTTATACA AAGAAAATAT AAGTAAGGCA TATAAATTTC CTCCAGCAAG CAAATCTTGT
      GGAAATATGT TTCTTTTATA TTCATTCCGT ATATTTAAAG GAGGTCGTTC GTTTAGAACA

3361  GGGTAAAAAA AAAAAATGTG AATTTTAACA ACCTCTATAT TTTCACTGTA TGTTATGGCA
      CCCATTTTTT TTTTTTACAC TTAAAATTGT TGGAGATATA AAAGTGACAT ACAATACCGT

3421  GAATTTTAGT CACGTCCAAA ACAAAAGATT ATTCCAGAAG ATACCTCATC CTATGCCTGA
      CTTAAAATCA GTGCAGGTTT TGTTTTCTAA TAAGGTCTTC TATGGAGTAG GATACGGACT

3481  AAGCTCCACA GCATGGCGTC CGTCTCCCAG GGTTCTGATC CGTCTCCTCA CGGTGCAATC
      TTCGAGGTGT CGTACCGCAG GCAGAGGGTC CCAAGACTAG GCAGAGGAGT GCCACGTTAG

3541  AGGCAGGACA GGAGGAGGTG CAGGGCTACC ACATTGACCC AGATGGTATC TCCTCTCACC
      TCCGTCCTGT CCTCCTCCAC GTCCCGATGG TGTAACTGGG TCTACCATAG AGGAGAGTGG

3601  ATTCAGACAT CCATAAGGAA TGCCAAATGC TGTATTGAAT AGTTCTCCTG TGTGACTTTC
      TAAGTCTGTA GGTATTCCTT ACGGTTTACG ACATAACTTA TCAAGAGGAC ACACTGAAAG

3661  TAGAGAAGCC AGGACACCCC TGAGCCTTTC CTGGGAACTC CTAAGGAAGT CACAGGTTCA
      ATCTCTTCGG TCCTGTGGGG ACTCGGAAAG GACCCTTGAG GATTCCTTCA GTGTCCAAGT

3721  CACCGTGGGG ATTTTCAGGA TAGCATGGAG ACCAGAGAAT CCCGGTTCGG TTGTTCTCAC
      GTGGCACCCC TAAAAGTCCT ATCGTACCTC TGGTCTCTTA GGGCCAAGCC AACAAGAGTG
```

Figure 19 (cont.)

```
3781  TCGGTGAGCC TTGAGAAGGA AGAGACTGAC CAGAAACACT CACTCAGCAC TCTGGCAGGA
      AGCCACTCGG AACTCTTCCT TCTCTGACTG GTCTTTGTGA GTGAGTCGTG AGACCGTCCT

3841  GCAGGAGAAG ATACTTTAAG ATGAATCTTT GGGATAGATT TTGATACACC CAATACCATA
      CGTCCTCTTC TATGAAATTC TACTTAGAAA CCCTATCTAA AACTATGTGG GTTATGGTAT

3901  CACACAGGAG CTTGGCATTT GCAAAGTCTA TTCAGTTTCC TTCCACACTC TGACCCACGG
      GTGTGTCCTC GAACCGTAAA CGTTTCAGAT AAGTCAAAGG AAGGTGTGAG ACTGGGTGCC

3961  TTGTAGCGGA GTGGGCTGAA CACTGTAACA CTGTACATGC GATTTCCCCA TGGGCTTCTA
      AACATCGCCT CACCCGACTT GTGACATTGT GACATGTACG CTAAAGGGGT ACCCGAAGAT

4021  AAATGTCACC ATCTCCTCCC CTGCTGTGTC CTACTCCATT TACTGGTTAC AAGGTGATGT
      TTTACAGTGG TAGAGGAGGG GACGACACAG GATGAGGTAA ATGACCAATG TTCCACTACA

4081  CAACAAGAGA AGCTATCACA ACACCAGGGC TGTGCACACG TGCACACACA TGTATGCACA
      GTTGTTCTCT TCGATAGTGT TGTGGTCCCG ACACGTGTGC ACGTGTGTGT ACATACGTGT

4141  AGCACACAGA TGTATGTACA GCACACACAC ACACACACAC CCCAAAAGGA GAGAAAAGGA
      TCGTGTGTCT ACATACATGT CGTGTGTGTG TGTGTGTGTG GGGTTTTCCT CTCTTTTCCT

4201  AGAAAACATT TATAAAAAGC GACAGCTACC CCCATATTCA AAAATAGTTC TTTTCCCTGT
      TCTTTTGTAA ATATTTTTCG CTGTCGATGG GGGTATAAGT TTTTATCAAG AAAAGGGACA

4261  AGGGAAACAG GTAGCTCTCC ATAAGGAAAT TATCATGAGT GTGTTCTCCC ATCAGTGCAC
      TCCCTTTGTC CATCGAGAGG TATTCCTTTA ATAGTACTCA CACAAGAGGG TAGTCACGTG

4321  TTCTCCCAGG GGTGCTCACT GAAGCTGGTC CACGTCTATA AACAGGTGAC ACTGGCTGCA
      AAGAGGGTCC CCACGAGTGA CTTCGACCAG GTGCAGATAT TTGTCCACTG TGACCGACGT

4381  GCAAAAAGCC ATTCGATCCA CACAAATTGA TCTTCTATCA TCTTGGAATC TGAATTGCAG
      CGTTTTTCGG TAAGCTAGGT GTGTTTAACT AGAAGATAGT AGAACCTTAG ACTTAACGTC

4441  GGAGGAGCAG CATGTAAGAC GACCGTTTAA TTCAGGCATT CCGAAGGCAT GAGCGCATGG
      CCTCCTCGTC GTACATTCTG CTGGCAAATT AAGTCCGTAA GGCTTCCGTA CTCGCGTACC

4501  ATTCTGTCAC CAAGCGTATA AAAGGACCCT GGCATTGGGA AACCTATGAC GGACTGTTTT
      TAAGACAGTG GTTCGCATAT TTTCCTGGGA CCGTAACCCT TTGGATACTG CCTGACAAAA

4561  TGCTGTAGAA GTAGGGATTT TACAGAAGTC TCCTTGGATT TGCCCTGCCT GGGGCAGTTT
      ACGACATCTT CATCCCTAAA ATGTCTTCAG AGGAACCTAA ACGGGACGGA CCCCGTCAAA

4621  TGCAGAGGAA CCTGCCAGAG ATTTATTGGC TGGTCAGTCT CTTGTGAAAT AGTATCATGT
      ACGTCTCCTT GGACGGTCTC TAAATAACCG ACCAGTCAGA GAACACTTTA TCATAGTACA

4681  GAGAAACAGT TTGTAGAAAA AAACTATACC TGGGAAGACC TTTGCAACAT TGTTCCTTCC
      CTCTTTGTCA AACATCTTTT TTTGATATGG ACCCTTCTGG AAACGTTGTA ACAAGGAAGG

4741  ATGGGCCAAG ACTCAGTTAG GAGGCATAAA TCTGCCCGGA ATAAACTAGG CCAGGATACA
      TACCCGGTTC TGAGTCAATC CTCCGTATTT AGACGGGCCT TATTTGATCC GGTCCTATGT

4801  GCCATGTTTA GTTAATAATT TGGTTTTAGA ATTCACACAG GCAGGATTGG TTTTTTTGTG
      CGGTACAAAT CAATTATTAA ACCAAAATCT TAAGTGTGTC CGTCCTAACC AAAAAAACAC

4861  TCTTGGCAAG TGGAGCATAT TTAACATACA GGCATGGGAA TCCTGCCTCT TAGCTTTTCC
      AGAACCGTTC ACCTCGTATA AATTGTATGT CCGTACCCTT AGGACGGAGA ATCGAAAAGG

4921  CACCCTCTTG TCTCACCAAG TTTTTTCTCT CCAAAGGTTT CCAGGAATTT CTCATTAATG
      GTGGGAGAAC AGAGTGGTTC AAAAAAGAGA GGTTTCCAAA GGTCCTTAAA GAGTAATTAC

4981  GCTGATGCAA ACTTAGTGAA TAATAATGAA TATAAACAAT GCTCACCTCA CCAAAATTAT
      CGACTACGTT TGAATCACTT ATTATTACTT ATATTTGTTA CGAGTGGAGT GGTTTTAATA
```

```
5041  ATTATTTGCA GTCATTTGTG ATAACACAAA TTTTATCGCA ATGGTTATTA TTTAATTTGT
      TAATAAACGT CAGTAAACAC TATTGTGTTT AAAATAGCGT TACCAATAAT AAATTAAACA

5101  GGCCACACAC TGTGGTTATC TTTTGTTGTG GTTGTTTCTG AGAAAATGTT CTTGGATATG
      CCGGTGTGTG ACACCAATAG AAAACAACAC CAACAAAGAC TCTTTTACAA GAACCTATAC

5161  TAAGTGCCAA TACCAGTGTG AAGTATTGAT CCCGGGCAGC AAAATACAGC CTAAGGTTTG
      ATTCACGGTT ATGGTCACAC TTCATAACTA GGGCCCGTCG TTTTATGTCG GATTCCAAAC

5221  TAAACATCAA TTCTATCTCA GTTCATCAGA GGGCCTGAGA AGCTGCGGGG CAGTGTAAAG
      ATTTGTAGTT AAGATAGAGT CAAGTAGTCT CCCGGACTCT TCGACGCCCC GTCACATTTC

5281  TAAAGTATGC TGGGCTGGTG GTGGTCAGCC TCCCCTTGCC AAGAAGAGAG CAATTGAATC
      ATTTCATACG ACCCGACCAC CACCAGTCGG AGGGGAACGG TTCTTCTCTC GTTAACTTAG

5341  CTGTCCCCAG CTCCCTCCAC GCCTGAAGAG TGACCAGTGC TGGCCCGACG GATCGCTGAG
      GACAGGGGTC GAGGGAGGTG CGGACTTCTC ACTGGTCACG ACCGGGCTGC CTAGCGACTC

5401  ATATTCTCCC ATAATGGCAA AAAAATAGGC AGTTTGATGT GACCTGTTTA GTGTGGCTCT
      TATAAGAGGG TATTACCGTT TTTTTATCCG TCAAACTACA CTGGACAAAT CACACCGAGA

5461  CCTCTTTTGA GCATGTGTTA GCATTTTTAT TTTATACTCA TCCAGTGAAC TCTGCTCTTC
      GGAGAAAACT CGTACACAAT CGTAAAAATA AAATATGAGT AGGTCACTTG AGACGAGAAG

5521  CAAGTGTGTT CATGTATGTG CTAGATATAT TAGCACAGCC TGCCTTCTGC TGCACAACGC
      GTTCACACAA GTACATACAC GATCTATATA ATCGTGTCGG ACGGAAGACG ACGTGTTGCG

5581  CTTAGAGACC CGGCCTTTCA ATGAGCTTAG CTTGTGCTCT GTTTCTGCTC TCTTAGGTCT
      GAATCTCTGG GCCGGAAAGT TACTCGAATC GAACACGAGA CAAAGACGAG AGAATCCAGA

5641  AAACTATGGT GTCAGTTTTA ATAGAACAAA AGTATGCATC TTGCCTTGGC TTGAGCCTTT
      TTTGATACCA CAGTCAAAAT TATCTTGTTT TCATACGTAG AACGGAACCG AACTCGGAAA

5701  TCGTTTTCAA TGCTGACTTC TCCCCTTTCT CTCCTGTGCT CACCTTACCT TTCCAGAGTG
      AGCAAAAGTT ACGACTGAAG AGGGGAAAGA GAGGACACGA GTGGAATGGA AAGGTCTCAC

5761  TAAGGGACAA CTTTTAAGGA GGCGTGTCCC TGGTAGGGGC ATCCCTGTTC ACCAGGTGCC
      ATTCCCTGTT GAAAATTCCT CCGCACAGGG ACCATCCCCG TAGGGACAAG TGGTCCACGG

5821  TGTCATCACC CCACTTGACT GACATCTACC CTGGTGACTA TGGGTTCCTC TTGTTTGTAG
      ACAGTAGTGG GGTGAACTGA CTGTAGATGG GACCACTGAT ACCCAAGGAG AACAAACATC

5881  GGAACGGTGG CTCCAGGTGG AGGCATCAAT CTGTTGGGTT CTGGTTCCCG GCTGCCTTTG
      CCTTGCCACC GAGGTCCACC TCCGTAGTTA GACAACCCAA GACCAAGGGC CGACGGAAAC

5941  GTTTTGAAAG TCTCTTCTCT GTATATTCCT ACCCTGCATT TGCTTTGTGT GGTGCTGATG
      CAAAACTTTC AGAGAAGAGA CATATAAGGA TGGGACGTAA ACGAAACACA CCACGACTAC

6001  CTGTGGCAGT AGGATCTTGG ATGACTCTCC ATCAGTCACA GACTCCCCCT GTTGCAAAGT
      GACACCGTCA TCCTAGAACC TACTGAGAGG TAGTCAGTGT CTGAGGGGGA CAACGTTTCA

6061  GTCAGGCTGA CTCGACAGTC ACCGTAAAAT CTGAGTCAGT CACACACAGG CTGTCAGCCA
      CAGTCCGACT GAGCTGTCAG TGGCATTTTA GACTCAGTCA GTGTGTGTCC GACAGTCGGT

6121  CGGCTTCCAC TTGCATGGCT ATTCTATTTT CACACGTGAG TTTCTGTTGC TGGCTGGCTG
      GCCGAAGGTG AACGTACCGA TAAGATAAAA GTGTGCACTC AAAGACAACG ACCGACCGAC

6181  ACTGGCATTA TCTATGCTAA GTTGAAATCA GGAGTGTGCC CAGCAGAGCC CATCATTCTC
      TGACCGTAAT AGATACGATT CAACTTTAGT CCTCACACGG GTCGTCTCGG GTAGTAAGAG

6241  ACTGTCTTTG AAACAAAGCT GTACGGTTTG ATCGATGAAC GTATTTAAAG CATTTCATGC
      TGACAGAAAC TTTGTTTCGA CATGCCAAAC TAGCTACTTG CATAAATTTC GTAAAGTACG
```

```
6301  AATGACAAAG TGCTCAGTAG TGGAAGGCAG GCTGTGACCA GTCTGCCTGC TCCTTACTAT
      TTACTGTTTC ACGAGTCATC ACCTTCCGTC CGACACTGGT CAGACGGACG AGGAATGATA

6361  AATTGTGAGG ATTTGTTACT GGAACAGTAC ATGGAGGCCT GACCTTGTGG GGGCACAGGG
      TTAACACTCC TAAACAATGA CCTTGTCATG TACCTCCGGA CTGGAACACC CCCGTGTCCC

6421  TGGAACCTTA GCTGAATATA GTGTGTGTCT CAAGAGGAAG TCAGGGTACT AGCTCAGTGC
      ACCTTGGAAT CGACTTATAT CACACACAGA GTTCTCCTTC AGTCCCATGA TCGAGTCACG

6481  TCAATCTCCA GGTACTATAT ATACATTTGC CCGTTTTATC TCTAATGTGA AATAAATCCC
      AGTTAGAGGT CCATGATATA TATGTAAACG GGCAAAATAG AGATTACACT TTATTTAGGG

6541  CAAACACTTG TTTATCGTGT AGCGTACCTA AAAGACTATT CTATTATGGG TGTCCCCACT
      GTTTGTGAAC AAATAGCACA TCGCATGGAT TTTCTGATAA GATAATACCC ACAGGGGTGA

6601  TTCTTGGTTT GGTCACCCCG ATCCCCCGGT CTTCTGCTGT ATCTAGAACA GTGACTATAA
      AAGAACCAAA CCAGTGGGGC TAGGGGGCCA GAAGACGACA TAGATCTTGT CACTGATATT

6661  ATGATGTATG GGAATAGTGT TTCCATATGA TCTGTTGTCT GGAGTATATG CTACATGTTC
      TACTACATAC CCTTATCACA AAGGTATACT AGACAACAGA CCTCATATAC GATGTACAAG

6721  ATTTACTGTA CAAAAACCCA GTGCAGCTGA TGATGCAAAG CAGTCTCTCT CTGTGTACAG
      TAAATGACAT GTTTTTGGGT CACGTCGACT ACTACGTTTC GTCAGAGAGA GACACATGTC

6781  TGCCCCACCT ATTTAAAAAT CACGTACAAN CCCAGAACAC TGTGAAACAC TTAACATAAG
      ACGGGGTGGA TAAATTTTTA GTGCATGTTN GGGTCTTGTG ACACTTTGTG AATTGTATTC

6841  AAACAAACGC AGCGTCTGGA TTCTTTCCAA GGAGAGCAGC TTTCTCCACA GGAACACAGT
      TTTGTTTGCG TCGCAGACCT AAGAAAGGTT CCTCTCGTCG AAAGAGGTGT CCTTGTGTCA

6901  AACAAAAGAG GTCCGCCGCC ATCCACACCC AGCCAAGACA CCTCAGAGGC CATAGGGACA
      TTGTTTTCTC CAGGCGGCGG TAGGTGTGGG TCGGTTCTGT GGAGTCTCCG GTATCCCTGT

6961  ACCTCCTTGC TGGCCAACAC CTGCTGGAGC AGGGCACAGG TCCCAGCAAC TGATCCTCAG
      TGGAGGAACG ACCGGTTGTG GACGACCTCG TCCCGTGTCC AGGGTCGTTG ACTAGGAGTC

7021  TGGATGGGTC CGCAGTCAAA GCCTTAATGG GCTCTCTTTT GAAGGGGAAA GAAANNTTTC
      ACCTACCCAG GCGTCAGTTT CGGAATTACC CGAGAGAAAA CTTCCCCTTT CTTTNNAAAG

7081  AAGCTTATGA TATCCAACAT TATTATAGTT GATGAGTTAG TAAATTCCGA AAAAAAAAGA
      TTCGAATACT ATAGGTTGTA ATAATATCAA CTACTCAATC ATTTAAGGCT TTTTTTTTCT

7141  TGATTTTATA TGTATGACAT AAAAAAAATC TTTGTAAAGT GCGCAAGTGC AATAATTTAA
      ACTAAAATAT ACATACTGTA TTTTTTTTAG AAACATTTCA CGCGTTCACG TTATTAAATT

7201  AGAGGTCTTA TCTTTGCATT TATAAATTAT AAATATTGTA CATGTGTGTA ATTTTTCATG
      TCTCCAGAAT AGAAACGTAA ATATTTAATA TTTATAACAT GTACACACAT TAAAAAGTAC

7261  TATTCATTTG CAGTCTTTGT ATTTAAAAAA ACTTTACTGT TATGTTTGTA TAATAGAACA
      ATAAGTAAAC GTCAGAAACA TAAATTTTTT TGAAATGACA ATACAAACAT ATTATCTTGT

7321  TTAATCATTT ATTATAACTC AGACAAGGTG TAAATAAATT CATAATTCAA ACAGCCAGTA
      AATTAGTAAA TAATATTGAG TCTGTTCCAC ATTTATTTAA GTATTAAGTT TGTCGGTCAT

7381  TATATGCATA TATGGGTGTT ACATTGCAAA AATCTCTATC TTTGTTCTAT TCACATGCTT
      ATATACGTAT ATACCCACAA TGTAACGTTT TTAGAGATAG AAACAAGATA AGTGTACGAA

7441  AAAGAAGTAA GAAATCTTTT GTGGATATGT AATTATACAT ATAAAGTATA TATATATGTA
      TTTCTTCATT CTTTAGAAAA CACCTATACA TTAATATGTA TATTTCATAT ATATATACAT

7501  TGATACATGA AATATATTTA GAAATGTTCA TAATTTTAAT GGATATTCTT TGGTGTGAAT
      ACTATGTACT TTATATAAAT CTTTACAAGT ATTAAAATTA CCTATAAGAA ACCACACTTA
```

Figure 19 (cont.)

```
7561  AATTGAATAC AACATTTTTA AAATGAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAAAA
      TTAACTTATG TTGTAAAAAT TTTACTTTTT TTTTTTTTTT TTTTTTTTTT TTTTTTTT
```